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ABSTRACT

While it is mainly a reference work for the transportation department of the Ontario Department of Education, this handbook should also be of interest to senior business and academic staff as well as to trustees interested in school transportation. It has been prepared to assist school officials by providing information and guidelines on the management of school transportation systems. Each of seven sections deals with a specific aspect of school transportation management, such as responsibilities and reporting relationships for board of education staff, types of service and safety policies, information systems for route design and collecting students, route design and planning, contracting, board-owned operations, and the Ministry of Education's transportation grants structure. The appendixes contain the results of a survey of current transportation practices of Ontario Boards, a history of school busing in Ontario, other items of interest to a transportation department, Ministry of Education transportation forms, and a list of acknowledgments. (Author/MLF)

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Managing School Transportation

Honourable Thomas L. Wells
Minister of Education

Prepared by
School Business & Finance Branch
Ministry of Education, Ontario
in conjunction with
Peter Barnard Associates

February 1973

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PREFACE

This Handbook has been prepared to assist school officials by providing information and guidelines on the management of school transportation systems. While mainly a reference work for the Transportation Department, it should also be of interest to senior business and academic staff as well as to Trustees interested in school transportation.

The Handbook is divided into seven sections, each of which deals with a specific aspect of school transportation management.

- Transportation Management: outlines the basic job to be done and discusses the responsibilities and reporting relationships for Board staff in managing a school bus operation, whether contracted or Board-owned.
- Transportation Policies: discusses the types of service and safety policies a Board needs to have and presents a sample policy for guidance.
- Information Systems: presents administrative systems for collecting and maintaining files on locations of students to be bused, other information needed for route design and for monitoring the service and safety of the routes.

- Route Design and Planning: discusses who should be responsible and how often routes should be re-designed, and presents basic methods and techniques for designing routes and for longer term route planning.
- Contracting: outlines approaches for negotiating and tendering with private operators and discusses contract terms.
- Board-Owned Operations: discusses how to evaluate contracted versus Board-owned systems and presents the basic approaches which need to be taken in running a bus operation.
- Ministry Forms and Procedures: outlines the rationale behind the Ministry of Education's transportation grants structure.

The appendices of the Handbook contain the results of a survey of current transportation practices of Ontario Boards, a history of school busing in Ontario, other items of interest to a Transportation Department, Ministry of Education transportation forms, and a list of acknowledgements.

As a final comment, the writing of such a Handbook always presents questions concerning the level of detail to which each subject is covered. Every effort has been made to present a comprehensive coverage in each chapter. Possible future editions or revisions which may take place from time to time may provide an opportunity to cover some subjects in more detail and to expand the scope of the Handbook.

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I. TRANSPORTATION MANAGEMENT

To begin, it is important to understand in general terms the nature of school transportation management and how it fits into the Board's organizational structure. Therefore, this chapter will discuss the nature of the Transportation Department's task, outline the responsibilities, information needs and reporting relationships of the Board's staff, and describe the various activities of the Department and their timing throughout the year. Later chapters of this handbook will then take up some of the more important subjects in greater detail.*

1. THE JOB TO BE DONE

The establishment of responsibilities and reporting relationships for administering the transportation system should stem from a recognition of what is important in school busing management and what activities must be carried out by the Transportation Department.

CRITICAL ASPECTS OF SCHOOL TRANSPORTATION

The primary functions of the Transportation Department are the design of efficient routes and the operation of those routes within the guidelines set out in the Board's policies. However, there are three critical aspects of school transportation, and the administrative approach must be designed to deal with them. They are:

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* *Parts of this chapter, and Chapters III, IV and V, have been drawn from the report "Improving School Transportation in Waterloo County", Peter Barnard Associates, April 1972.*

1. Safe Operation: It is recognized that the safety of students being transported is of paramount importance. Management must continually ensure that all vehicles are in safe working order, that the drivers follow safe driving practices and that bus stops do not expose the students to any unnecessary hazards while they are boarding or getting off the bus.
2. Good Service: The transportation system is an important support service to the Board's academic program. Students must be picked up as close to their homes as efficient operation and Board policy will permit. The amount of time that the students spend on the bus must be minimized and the vehicles maintained to provide the maximum of comfort and cleanliness. Ultimately the principals must be provided with a reliable service in which the buses arrive and depart at reasonable times which are consistent with the academic program.
3. Low Costs: Finally and importantly, the transportation system must be efficient and economical. The total operations of the Transportation Department must meet its budget constraints each year and must be carefully controlled from one year to the next. While safe operations can never be compromised, trade-offs must always be made on the quality of the service provided and the cost of providing that service.

These three objectives must be used as the benchmarks around which the administrative system is to be designed.

THE IMPORTANT MANAGEMENT ACTIVITIES

In a general sense, the management of any operation involves three activities: development of operational policy, measurement and control of performance, and operational planning. With respect to school transportation, each of these activities must be related to the objectives of safe operation, good service and low costs.

Policy Development

The Board's staff must have operating policies or guidelines covering important aspects of safety, service and cost, in order to control operations effectively. Some of these policies can be used to inform those concerned with school transportation, whether students, parents, drivers or private operators, of the manner in which the bus service is to be provided. Also, policies serve as the basis for measuring performance and guiding future planning for the system. These policies should include the following:

- Safety: Safe operating procedures to be followed by bus drivers, frequency of safety checks of vehicles, student conduct on the bus, safety standards for bus stops.
- Service: Maximum distance pupils should walk to the bus stop, earliest pick-up and latest return times, earliest arrival at school and latest departure, frequency of transfers from one bus to another, maximum number of students on the bus, frequency of bus cleaning and maintenance checks, procedures for cancelling service during bad weather.

- Costs: Maximum payment for routes of given characteristics, contracting procedures.

Most of these policies are for operational guidance to the Board's own staff, its drivers or the private operators and, except for the politically more sensitive issues, need not be formally approved by the Board itself. Also, all policies need not be considered mandatory; many can be regarded as general guidelines to be met within reasonable limits.

Performance Measurement and Control

Once operating guidelines have been established, the Transportation Department should ensure that they are being followed or know the extent of deviation from them. Spot checks should be made of both Board-owned and private operators' buses to test whether safe operating procedures are being followed. Surveys and spot checks should be carried out to determine the standard of service being provided and the extent of deviation, if any, from existing service policies. Costs should be compared with budgets.

Control should be imposed carefully. Too rigid an application of control could inhibit some of the flexibility necessary in a school busing operation. On the other hand, the Transportation Department must know at all times what is happening in the field, where problems could occur, and who is providing the Board with what quality of service.

Operational Planning

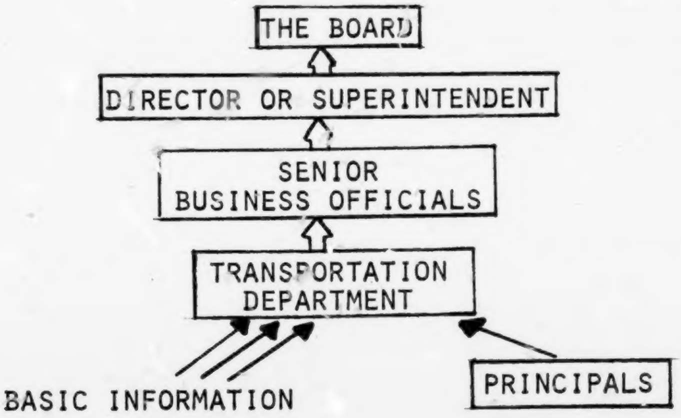
In addition to controlling day-to-day operations, transportation management must continually assess the Board's busing system both in relation to future needs and in comparison to other transportation operations. A knowledge of future transportation demand in terms of numbers and locations of pupils to be bused, vehicles needed, school locations, etc., provides necessary information to plan efficient future operations and to set budgets. This type of forward operational planning should be accompanied by comparisons of policies and operating procedures with those of other Boards and other transportation systems. These comparisons provide background information for proposed changes and help the Board's staff evaluate the quality of service being provided and its cost.

2. RESPONSIBILITIES AND REPORTING

The responsibility for student transportation normally belongs to the business administration side of the Board's organization, reporting through the Director or Superintendent, to the Board. Because transportation is a service provided to the schools, the principals must also be involved.

Each level of management concerned with transportation has specific responsibilities and each needs certain information to carry out those responsibilities. The information needed, usually in the form of written or oral reports, must flow upwards in the organization.

INFORMATION FLOW BETWEEN LEVELS OF MANAGEMENT


THE BOARD
DIRECTOR OR SUPERINTENDENT
SENIOR BUSINESS OFFICIALS
TRANSPORTATION DEPARTMENT
BASIC INFORMATION
PRINCIPALS

Each level in this organization must be defined as to its responsibilities, the information it needs and the timing of the reports.

THE BOARD

The Board is responsible for the budgets for all phases of education and more specifically, for all expenditures related to the transportation of students. The Board is responsible for all policies and making changes in those policies to meet the changing needs and circumstances of the student population. As the highest authority in the organization, the Board becomes the final arbiter in major complaints, accidents or anything else which is likely to become a public issue.

In order to carry out its responsibilities, the Board must have annual estimates and performance reports on the operation of the Transportation Department. To assess the efficiency and economy of its operations, the Board should have the latest budgets and policies of neighbouring Boards which they can use for the purpose of comparison. In addition to these needs, the Boards must be provided with sufficient background materials to be informed on all the major issues as they arise.

SENIOR BUSINESS OFFICIALS

The Superintendent Of Business is responsible for the business affairs of the Board. The size of the Business Department will vary according to the size of the Board, and in larger Boards there may be an intermediate level of management composed of Assistant Business Administrators. Regardless of the size of the Business Department, the actual functions remain the same.

Responsibilities

In the area of transportation the Senior Business Official is responsible for:

- providing the Board with factual information relating to the Transportation Department.
- proposing policy changes.
- ensuring that policies are adhered to.
- dealing with difficult complaints.
- setting cost objectives and proposing capital and operating budgets.

Information Needs and Reporting

To carry out these responsibilities the Senior Business Official needs immediate reports on any matters such as accidents or major complaints which are likely to be raised at Board meetings, and in addition carries out any investigations the Board may request.

Generally the Transportation Department must supply the Senior Business Official with the following:

- Annual Report
  - justification and cost implications of proposed policy changes.
  - comparisons of policies and costs with other Boards.
  - projections of future transportation needs.
  - comparison of actual costs to budget.
  - report on contract negotiations.
  - comparison of Board-owned versus private operator, costs and safety.
  - comparisons of cost and safety performances of private operators.
- Periodic Reports
  - report of existing service levels compared to policy.
  - report of frequency and nature of complaints.
  - report on cost to budget
- Reports as Required
  - details of major complaints, accidents.
  - special investigations.

TRANSPORTATION DEPARTMENT

The Transportation Department has day-to-day responsibility for busing operations. The staff of the Department gather and analyze much of the basic information upon which the head of the Department and his superiors make decisions.

Responsibilities

The Transportation Department:

- recommends safety and service policy changes.
- monitors adherence to policy: safety, service.
- answers and records complaints and enquiries.
- designs and implements routes, approves and records changes.
- negotiates or tenders contracts with operators for regular routes, and excursions, and monitors the costs throughout the year.
- evaluates operators and Board-owned versus private operator - safety and costs.
- negotiates contracts with Board drivers.
- recommends purchase of new equipment.
- completes Ministry of Education grant applications
- informs academic staff and principals of matters of concern to them.

Information Needs and Reporting

The Transportation Department must analyze and gather required information to carry out its responsibilities and to make the necessary reports to the Senior Business Official. Some information must be continually at hand or determined periodically while the remainder is preparatory to the annual report and review of the year's operations.

- Annually
  - a) Policy changes
    - comparison of Board policies with other Boards
    - extent of deviations from policy
    - cost implications of policy changes
  - b) Route Design
    - information on revised attendance areas
    - student locations, road conditions, vehicle capacities.
  - c) Cost Control
    - (i) private operators
      - updated direct and indirect costs for formula
      - previous years' costs, service and safety performance of private operators
    - (ii) Board drivers
      - wages paid by nearby Boards
      - wages paid by private operators.
    - (iii) Board-owned versus private operator: Board costs versus formula.
    - (iv) new equipment
      - age and condition of Board buses
      - required capacity of Board fleet
    - (v) grant applications.
- Periodically
  - safety check of buses and operating procedures
  - survey of service on each route
  - cost to budget reports

- Continually
  - record of route locations, times, loadings
  - information on road conditions
  - complaints, enquiries and action taken.

Staffing

The responsibility of the Transportation Department in maintaining the day-to-day operations of a transportation system of significant size is such that it would be desirable to have a full-time person employed to carry out the various functions. In larger Boards or those with Board-owned operations, the Transportation Officer usually has one or more assistants.

The need for a full-time Transportation Officer is justified in that he is responsible for route design, which makes up the bulk of the cost of transportation services. The savings which result from efficiently designed routes can more than make up for any increased cost resulting from having him involved solely in matters of transportation. If the Transportation Officer has one or more assistancts, the functions of the Department may be allotted in such a way as to leave to the Transportation Officer the major responsibilities such as route design, contracting, policy development and the annual report. The assistants would gather the information needed for the critical activities, would monitor the operations and prepare the minor reports.

SCHOOL PRINCIPALS

The school principal, or in the case of a larger school, his designee, has several responsibilities in the area of transportation. It is the schools that supply the Transportation Department with much of the basic information needed for route design.

Responsibilities

The school principal:

- supplies the Transportation Department with relevant information on student promotions, registrations and moves.
- arranges for excursions with the operator designated by the Transportation Department.
- enforces discipline on the buses and takes appropriate action on any breaches of conduct.
- relays any complaints or enquiries about safety or service to the Transportation Department.

Information Needs

To carry out his responsibilities, the principal needs all the information pertaining to:

- student promotions, registrations and moves.
- the excursions planned by his teachers
- the discipline problems encountered by the bus drivers.

II. TRANSPORTATION POLICIES

The key to a safe and efficient school transportation system is the development and application of policies to guide decision-making. These policies must be carefully thought through and be tailored to the specific characteristics of the area and students to be served. They must also be effectively communicated to the people affected and monitored on a continuing basis to ensure adherence.

This chapter presents a discussion of the two principal areas for which a Board requires policies - service and safety - and includes an outline of approaches for communicating and monitoring these policies. Finally, to illustrate the writing of such policies, a sample policy is included at the end of the chapter. As a further aid to the development of these policies, a summary of the prevailing practices amonst Ontario boards can be found in Appendix A.

It is important to emphasize that while these policies serve as guidelines for the Board's transportation operation, they should not be rigidly applied. Some flexibility in interpretation will always be necessary for special circumstances. Also, these policies should not be viewed as being good for all time, but rather as guidelines for decision-making, which will require modification as conditions change.

1. SERVICE POLICIES

School transportation is not currently considered the right of every student, but rather a privilege accorded to certain students who have difficulties in getting to and from school. Therefore, to avoid inequities and limit complaints, it is important that the Board develop clearly stated policies with respect to (a) those who are eligible for service, and (b) the types and limits of service to be provided.

ELIGIBILITY FOR SERVICE

Basically, busing services should be provided to children who under normal circumstances would have difficulties either because of distance, road hazards, climate conditions, availability of public transportation, or handicaps in getting to and from school. The Board should also bear in mind Section 6(2)C of the Schools Administration Act. This section excuses students from attending school if transportation is not provided when the student lives more than one mile from school if under seven years of age, two miles if seven to ten years, and three miles if over ten.

On the basis of experience with school busing to date, the degree of difficulty in getting to school varies depending on whether children live in an urban or rural area, their age or their special needs. Policies covering each condition are needed and should take into account the following conditions:

- Urban Students: Children living in urban centres typically have access to public transportation and generally reside in fairly close proximity to the school. Assistance is needed for the relatively small proportion of children without access to public transportation living some distance away from the school. Thus, with respect to urban children the critical policy question of eligibility relates to the distance children of certain ages should walk. Generally speaking, secondary school children can be expected to walk greater distances to school than elementary school children and policies should reflect that difference. In setting policies on this issue, the Board should also take into consideration other factors that present hazards or dangers to the children, such as the absence of sidewalks, poorly lit streets, and other hazards in certain areas.

- Rural Students: In contrast to urban children, rural children typically have no access to public transportation and live well beyond walking distance from the school. Without assistance, many children would be unable to attend school. The questions relating to eligibility for rural students are again matters of walking limits for different age groups. Therefore, consideration of the same factors as for urban students should be taken into account.

- Kindergarten: Very young children require special consideration in terms of eligibility for busing assistance because of their age and their inability to walk any distance without close supervision. In this respect, there is normally little or no difference between urban and rural children.

- Special Education: Other groups that should be eligible for assistance are the handicapped and trainable retarded children. Again, there is little or no difference between urban and rural children, the difficult questions being the definitions of which children are to be considered handicapped or retarded.

SERVICE LEVELS

As important as the question of who is eligible for school busing is the types and levels of service that the Board believes should be provided. Clear policies are needed for each category of student dealing with:

a) maximum distances that children should walk to and from bus stops or pick-up points.
b) pick-up and drop-off times at the bus stops and at school.
c) maximum length of time students should spend on the bus.
d) maximum bus loadings.
e) transfers.
f) combining routes
g) cancellation of service.

a) Distance to pick-up point: In developing policies on the distance that children should walk to pick-up points consideration should be given to a variety of factors. First and most important is the maximum distance children of various ages can be expected to walk. Considering that the walk to the pick-up point is part of a longer journey and that there will be a waiting period, the policy regarding maximum walking distances to school should not be automatically applied to pick-up points. Also, maximum walking distances should take into consideration the overall length of time required for the children to get to school, as well as the condition of roads, availability of shelter and sidewalks and presence of hazardous conditions.

b) Pick-up and drop-off times: A second area requiring policy guidelines is the time limits within which children should be picked up or dropped off. While there are obvious economies from scheduling the buses to make multiple runs, the policies should set constraints so that the students are not picked up too early in the morning or delivered before the school is opened, or before school staff are available to supervise them. A similar limit is needed for the latest time that the students may be delivered at the school.

c) Length of time on the bus: An area of policy that is to some extent related to the pick-up and arrival times is the time students spend on the bus. Obviously, children living long distances from the school will be required to spend longer times on the bus than those living nearer. However, every effort should be made to ensure that the on-bus time is kept to a minimum.

d) Maximum bus loadings: Board policy should take into consideration the maximum numbers of children that may be loaded on any given bus. Under Section 16 of the Public Vehicles Act, "... a vehicle may carry as standing passengers in the aisles thereof, not more than one-third the number of persons for which seats are provided". This Act applies only to private operators' buses and not to those owned by Boards. Obviously, where feasible, there should be a seat for every child. However, this may not be possible for reasons of economy. Therefore, policies are needed for whether or not standees are to be permitted, and, if so, whether standees are to be permitted on elementary and/or secondary routes, and how the younger elementary children are to be assured seats on buses carrying secondary students as well. Also, consideration should be given to the maximum length of time which students could be expected to stand.

e) Transfers: Transfering students from one bus to another on their way to and from school effectively decreases the level of service to these students because of the inconvenience involved. On the other hand, under certain circumstances, transfers may be necessary for reasons of economy or to get a group of students to school within the required time period. Thus, the Board's policy should include whether or not transfering is permitted and, if so, under what conditions.

f) Combining Routes: Generally, for reasons of economy, the Board should consider routes that combine elementary and secondary routes. In addition, the Board should consider the advisability of combining its routes with those of other Boards wherever possible, to eliminate duplication of service. Naturally, special routes may have to be considered for those students who are either physically or mentally handicapped and who require special attention. In addition, the Board may consider that it is desirable to have special routes for kindergarten students.

g) Cancellation of Service: From time to time there are occasions when it is impossible to maintain adequate service. Therefore, policies outlining the conditions under which services will be curtailed or cancelled must be developed. These policies should not only specify the circumstances under which services are cancelled, but also the method of communicating the decisions and the procedures to be followed to ensure the safety of the students.

2. SAFETY POLICIES

Along with providing the prescribed level of service, it is imperative that busing operations are carried out with a high degree of safety. The ultimate responsibility for the safety of the students rests with the Board, however the success of any policy on safety depends on those who are involved with the system on a day-to-day basis. To ensure that day-to-day operations are carried out safely, the Board should have clearly defined safety policies in respect of a) the selection and maintenance of vehicles, b) the operation of the vehicles, and c) the conduct of the passengers on the vehicles.

SELECTION AND MAINTENANCE OF BUSES

Minimum standards for the construction of school buses used in Ontario are established in the Highway Traffic Act (Regulation 424) and enforced by the Ministry of Transportation and Communications. Other standards have been developed by the Canadian Standards Association (No. D250) which are generally higher than those specified in the Act, but these are voluntary, not legal, standards.

A Board may wish to have certain safety features above the Highway Traffic Act minimums added to all buses serving its students, and, of course, be prepared to pay any extra costs involved. In this case, the C.S.A. may be helpful to the Board in deciding what standards to require. In writing its policy regarding vehicle specifications, there should be no differentiation between Board-owned and private operators' vehicles. In this way, the Board can ensure uniformity in safety and service to all students, regardless of who owns the buses.

A second area related to the selection of vehicles is the question of their maintenance and repair, particularly as related to safety of operation. In this regard, the Board should have policies dealing with preventive maintenance and repair of vehicles to certain specifications. Again, these policies should apply not only to the buses which the Board owns, but also for privately contracted buses.

Once the Board has set its policy on the maintenance of vehicles, it is a relatively simple matter to institute a series of spot checks to make certain all vehicles conform. The Ministry of Transportation and Communications under the Highway Traffic Act (Regulation 424) requires all vehicles being used for student transportation to undergo two safety inspections each year, and in addition, the Ministry carries out spot checks throughout the Province. The Board may consider that these government-sponsored spot checks and inspections are the minimum standard and develop a more stringent program for vehicles in its service, as well as requiring photocopies of the government inspection certificates. If this is the case, the contract with the operator can spell out the Board's right to request additional safety checks. These may be done on a random selection, or on a regular basis, but with the operator paying the cost only if the vehicle fails to meet the inspection standards.

OPERATING PROCEDURES

The success or failure of school bus safety rests to a great extent with the actual drivers of the vehicles. It is important that Board policies ensure that only qualified drivers are hired; that they have the proper attitude and behaviour toward safe operation of the vehicle, and that routes are safe.

Selection and screening of drivers:

The Board's first responsibility is to ensure that all drivers, whether its employees or on contract to the Board, have the appropriate chauffeur's licence with endorsement for school bus operation. Provincial regulations dictate that holders of such licences must:

- be 21 years of age or over
- pass a special driving test conducted by the Ministry of Transportation and Communications. This test must be taken in a school bus. The chauffeur's licence of the successful candidate will be endorsed for the operation of a school bus.

- file a medical certificate of physical fitness in the prescribed form and pass a vision test.
- pass a test on the rules of the road and sign recognition.
- have knowledge of bus and equipment maintenance and safety and passenger control.

The Board may wish, however, to add further qualifications for drivers in its service which might include minimum physical and mental health standards as well as special driver training and experience.*

The Board may also insist on levels of retraining and checking drivers' skills. Here again, the minimum is set by provincial regulation, which requires drivers to be re-examined regularly every three years, including the filing of a physical fitness certificate, the passing of vision tests, and knowledge of the rules of the road and possibly even a road test in a school bus. Drivers over 65 years of age must pass such tests each year. In addition to these minimums, the Board may choose to require other checks including training courses, and further health standards.

Having set the specifications for employment, the Board is also responsible for ensuring that the policies are properly carried out.

Driver Responsibilities

Clearly, the driver is the key to safe operation of the bus, and his responsibilities for safe operation must be well-documented and understood. Thus, the policies of the Board should prescribe the rules under which operators should drive school buses.

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* *See also "Manual for School Bus Operations", Ministry of Transportation and Communications, Ontario.*

Here, the driver must conform at all times to the Highway Traffic Act, and, if the bus is owned by a private operator, to the Public Vehicles Act. The latter Act contains two important points regarding school bus operation, regarding rail crossings and signal lights:

- School buses must stop not less than 15 feet from the nearest rail at unprotected railway crossings. The driver should make note of the number of railway tracks and before he proceeds make sure that no trains are approaching from any direction. While stopped at railway crossings the driver must open the door of the bus and listen for any approaching train. He must not change gears while the bus is actually crossing the railway tracks. This procedure must be strictly followed.
- When loading or unloading students, school bus drivers should ensure that their red signal lights are only actuated in a zone where the maximum speed limit is greater than 35 miles per hour. Drivers should report to the Transportation Department any licence numbers of vehicles which pass stopped buses contrary to the Highway Traffic Act who in turn should report the incident to the police authority responsible.

In addition to these statutory requirements, the Board may wish to require that all drivers follow certain other safe driving practices and stipulate these in its safety policies.

Route Safety

Safety considerations are extremely important in relation to service policy when a Board is dealing with the question of the distance and walking conditions from a student's home to the bus pick-up point. Routes should be arranged in such a way as to minimize the number of potential hazards, such as extreme traffic at bus pick-up and transfer points, as well as the actual conditions of the road itself. In order to monitor route safety, the Board should consider a program of spot checks of the actual operations of the routes, including the driving procedures of the drivers.

CONDUCT OF PASSENGERS

The conduct of the students on the bus is a major factor contributing to the safety of the entire system. The improper conduct of the students may result not only in injuries to other students, but can be a contributing factor to an accident by distracting the driver.

A Board's policy should provide the proper means to deal with student discipline problems by defining the responsibilities of those involved and the procedures to be followed as well as stating the actual rules of passenger conduct.

Generally, discipline of the students who are travelling on the bus is the responsibility of the school principal, although it is the driver who must maintain the discipline. The school bus is essentially an extension of the school and the driver of a bus is entitled to the same amount of back-up from the principal as would be given to a teacher in the classroom.

3. POLICY ADMINISTRATION

In conjunction with the development of sound operating policies, the Board is responsible for ensuring that policies are communicated and understood by all those concerned, as well as being followed in the day-to-day busing operations. Thus, the Transportation Department should consider to whom both its service and safety policies are to be communicated, the approach to be used and how often this should be done. In addition, one of the more effective approaches to communicating safety policies is to conduct regular safety seminars as well as providing handbooks and manuals. The problem of monitoring adherence to safety policies and procedures is more complex. Safety patrols are one approach that can be considered, although there is some controversy surrounding their use.

COMMUNICATING POLICIES

Virtually all parties affected by the Board's transportation operation should be fully aware of the Board's service and safety policies. The approach to communicating the policies and the frequency of this communication will vary.

- Operators and drivers. The Board's service and safety policies should form part of its contract with its private operators who would be obliged to be fully conversant with all policies and to make their drivers equally familiar with the policies affecting them. Similarly, the Board's own drivers should receive copies of the policies. The Transportation Department should consider formally reviewing the policies in a seminar with all drivers once or twice a year, depending on driver turnover.
- Students and parents. While it would be clearly impractical to distribute policy statements to all families, the Board should include brief accounts of its statement on eligibility for transportation, walking distances and pick-up times in any standard information bulletins sent to parents. It is also a good policy for the Transportation Department to inform the parents and the students at the beginning of each school year of the rules of conduct for riding on the buses as well as the procedures that are involved in the event of any infraction of the rules.
- Principals. There should be a copy of the up-to-date policy statement at each school for reference.

Finally, of course, all Trustees should have copies of the Board's policy statement, so that they will be conversant with the relevant sections when changes are proposed or when they receive and direct enquiries pertaining to transportation matters.

SAFETY SEMINARS

The Board may wish to consider a series of seminars for the drivers as part of the overall safety program. The purpose of the seminars is to refresh the drivers on aspects of safety and defensive driving. They may be conducted by officials of the Ministry of Transportation and Communications, representatives of the local police or Ontario Provincial Police, representatives of the insuring companies as well as members of the Board's Transportation Department. The format for the seminars is usually organized around speakers, films and panel discussions.

In addition to the seminars for the operators and the drivers, a program of schoolroom seminars should also be considered for the students. These seminars are essential in the development of the proper safety attitude among the students, and may be conducted by the teacher and the Transportation Officer in co-operation with a member of the local police. Subjects to be covered should include:

- walking to the bus pick-up point
- boarding the bus
- conduct on the bus
- crossing the highway
- emergency procedures.

The assistance of a number of organizations can be enlisted in the development and conduct of such seminars, including:

- Regional Public Safety Consultants
  Ministry of Transportation and Communications
- Accident Prevention Co-ordinators
  Ontario Provincial Police
- Traffic Safety Officers
  Municipal Police Departments.

For further details contact the Highway Safety Branch, Ministry of Transportation and Communications, Queens Park, Toronto.

SAFETY PATROLS

The student safety patrol is not a regular school activity, and has created a certain amount of controversy as to whether or not it is of any benefit. Those who tend to oppose such a program do so on the grounds that it is not the duty of a student to monitor the activities of any other student. Those who favour the program feel that the benefits of any safety program outweigh all other considerations. The question of whether or not to establish such a program is a matter each Board should consider.

If the Board so desires, safety patrols can be set up in the following manner. The safety patrol can be made up of two of the older students on each bus, usually the first students to board the bus. Their duty is to direct the actions of the younger students under the supervision of the driver. Generally, they maintain order among the students as they board the bus, and assist the smaller children in boarding. Once they are aboard the bus, the patrol keeps the children under control so the driver is not distracted from his driving duties. When the children are leaving the bus, the patrol members alert students to existing conditions and the need to observe safety precautions. At no time do the patrols direct traffic - their duty is to make certain that the students do not cross the roadway when there is oncoming traffic.

The provincial organizations listed above can be of assistance in training safety patrols, as well as in preparing safety seminars.

4. SAMPLE POLICY

The following section presents a possible approach to a Board's service and safety policies. It should be emphasized that this is included in this handbook as illustration only and that the inclusion of specific clauses, times, distances and other practices are the decision of each individual Board. As Appendix A illustrates, there are in fact a wide range of approaches used by Boards throughout the province.

* * * * * *

BOARD OF EDUCATION
TRANSPORTATION POLICY

The following is a statement of the Board's policies with respect to who is eligible for transportation service, what standard of service the Board will attempt to supply, and what precautions the Board will take to ensure that the service is provided in as safe a manner as possible.

A. ELIGIBILITY FOR TRANSPORTATION SERVICE

It is a policy of this Board to provide free transportation to students whenever such transportation is warranted due to one or more factors such as distance from the home to the school, traffic hazards or other safety hazards, the needs of pupils who for physical, mental or emotional reasons require special transportation other than that normally provided by the Board. The Board considers that transportation is a privilege and not a right, which may be revoked at the Board's discretion. Transportation will be provided to students meeting the following conditions of eligibility:

1. Only students resident in .... County or registered in and attending a school operated by this Board shall be eligible for transportation service.

2. In municipalities with public transit service, transportation will be provided for students who reside more than .... miles from a transit route, and also more than the following distances by road from the school they attend:

   a) Kindergarten and junior kindergarten: .... mile(s)
   b) Elementary (Grades 1 to 8): .... mile(s)
   c) Secondary (Grades 9 to 13): ... mile(s)

3. All students other than those described in (2) above, will be provided transportation, who reside more than the following distances by road from the school they attend:

   a) Kindergarten and junior kindergarten: .... mile(s)
   b) Elementary (Grades 1 to 8): .... mile(s)
   c) Secondary (Grades 9 to 13): .... mile(s)

4. Students living within the distances specified in (2) and (3) may be transported for reasons of safety rather than distance in situations where this is recommended by the Transportation Department.

5. Students with physical or mental handicaps will be eligible for transportation upon the recommendation of the Superintendent of Education in their area.

6. Subject to the approval of the Transportation Department, transportation may be provided for students not otherwise qualifying for transportation privileges, for whom a certificate of a qualified medical practitioner is provided, indicating that the student is unable to walk to school because of temporary physical or health reasons.

7. Where routes have been established and there is available space on a bus, students may be allowed to ride even though their distance from school is within the minimum limit. However, any such permission may be withdrawn at any time, and it shall not be considered to constitute a precedent or to establish a right.

B. SERVICE TO BE PROVIDED

The Board will provide transportation to eligible students using Board-owned or contracted vehicles or through services provided by a public transit authority. Wherever a student could reasonably use public transportation service, tickets or reimbursement for tickets will be supplied rather than transportation by school bus. This decision is at the discretion of the Transportation Department. Service provided by Board-owned or contracted school bus will be in accordance with the following conditions of minimum service. These conditions may be varied at the discretion of the Transportation Department in special circumstances.

1. Distance to Pick-up Points:

   Students will not be required to walk more than the following distances from the nearest point of access to their property to the bus stop:

a) Kindergarten and pre-kindergarten: .... mile(s)
b) Elementary (Grades 1 to 8): .... mile(s)
c) Secondary (Grades 9 to 13): .... mile(s)

2. Pick-up and Drop-off Times

a) No student in pre-kindergarten, kindergarten or Grades 1 to 8 will be picked up prior to .... a.m., nor arrive at school prior to .... a.m..
b) No student in Grades 9 to 13 will be picked up prior to .... a.m., nor arrive at school prior to .... a.m..
c) Buses will leave elementary schools before .... p.m. and secondary schools before .... p.m. to take pupils home, unless there is a special arrangement with the principal for those students participating in school-sponsored extra-curricular activities.

3. Length of Time on the Bus

a) No student in pre-kindergarten, kindergarten or Grades 1 to 8 will be expected to spend more than .... minutes on the bus each way.
b) No student in Grades 9 to 13 shall be expected to spend more than .... minutes on the bus each way.

4. Maximum Bus Loadings

a) At no time will buses exceed their capacities as specified by their manufacturers.
b) Standees will not be permitted on any bus while it is carrying pre-kindergarten, kindergarten or elementary students.
c) No secondary student will be required to stand on a bus for longer than .... minutes each way.

5. Transfers

At the discretion of the Transportation Department, students may be required to transfer buses, provided that:

a) No student will ride on more than two buses while travelling either to or from school.
b) No student will be discharged from a bus at a transfer point until the bus onto which he is to transfer has arrived.
c) All transfer points provide adequate safety for the students transferring.

6. Combination of Routes

a) Where practicable and economical, secondary and elementary school students may be transported on the same bus.
b) Students who are physically handicapped or mentally retarded will be transported on the same buses as other students whenever feasible unless different transportation arrangements are requested.

c) Students who are physically handicapped or mentally retarded will receive special attention from the driver and school principal and the Board expects the following special procedures to be carried out:

(i) It is expected that the child shall be under the supervision of an adult until the school bus arrives at the designated location.

(ii) Special care must be taken by the operator to see that these children are properly seated at all times when the bus is in motion.

(iii) The principal of the school will discuss with the driver how to deal with health problems that may arise during the time a child is on the bus.

(iv) The principal of the school or his designate will be responsible for meeting the students when they arrive at school, and for seeing that they are placed aboard the proper bus to return home after the school day is over.

(v) The driver will exercise special care to see that each child who leaves a school bus is able to proceed to his or her home, or that the child is delivered into the care of a responsible adult.

(vi) The principal of the school will advise the driver of children who must not be permitted to leave the bus unless met by an adult. In the event there is no adult at the usual delivery point, the principal shall provide each driver with a list of alternate telephone numbers and addresses.

7. Cancellation of Service

a) The Transportation Department, after consultation with the bus operator, will decide whether or not it is safe to cover the routes under abnormal driving conditions.

b) In case of cancellation of a route, it will be the responsibility of the Transportation Department as early as possible to:

   (i) request the local radio stations to broadcast a report of the cancellation of routes with necessary details

   (ii) inform the Senior Business Officials

   (iii) inform the principals of schools concerned.

c) In cases where early closing is indicated by deteriorating weather conditions, it will be the responsibility of the Transportation Department, bus operators and the principals of the schools concerned to make emergency arrangements, with the safety of the students being the first consideration. The Senior Business Official will be informed immediately of the decisions reached.

d) It is the responsibility of the parent to determine whether or not it is safe for a student to leave for school under severe weather conditions, as well as at other times.

e) Schools will be open each day, regardless of weather conditions, for those who are able to attend. The principal will arrange for suitable learning activities for students who are present. Some planning ahead for such emergencies will avoid serious problems under such circumstances.

f) The principal will notify the Transportation Department of any cancelled or incompleted routes on the same day they occur.

C. SAFETY PRECAUTIONS

The Board considers the safety of students to be of paramount importance, and will take all reasonable precautions to ensure that transportation service is provided in as safe a manner as economically feasible. The Board has established the following regulations and procedures to be followed by its staff and by students, drivers and the owners of contracted buses:

1. Bus Specifications and Maintenance

a) In addition to the minimum standards specified in the Highway Traffic Act, the Board requires that all buses in its service, whether contracted or Board-owned, be equipped with the following equipment:

(insert list of required safety options)

b) The Board requires that copies of the Mechanical Fitness Certificate stamped by the Ministry of Transportation and Communications be filed with the Board within two weeks of their receipt by the operator in respect of each vehicle used by the operator under the contract.

c) In addition, the Board reserves the right to designate an independent mechanic to make a mechanical fitness report on any vehicle being used by the operator under the contract. If the vehicle fails to meet the Board's specifications, the operator will bear the cost of the inspection. Otherwise, the Board shall be responsible for the cost.

2. Operating Procedures

a) Drivers operating buses in the service of the Board will hold an Ontario chauffeur's driving licence with endorsement for school bus operation. In addition, drivers will

(insert list of additional driver qualifications and/or retraining requirements)

b) Drivers operating buses in the service of the Board will be considerate and courteous to other motorists and will follow the following safe driving rules:

(i) Keep to the right of the centre line of the highway.

(ii) Pass overtaken vehicles on the left, but only after sounding the horn and only when the road ahead is clear enough to permit getting back to the right with a wide margin for safety.

(iii) Never attempt to pass an overtaken vehicle at an intersection, on a curve or approaching the crown of a hill.

(iv) At intersections, be prepared to stop if a vehicle on an intersecting road is moving into the intersection. Do not try to take the right of way.

(v) Keep far enough back of the vehicle ahead to allow a safe braking distance in the event that the other vehicle makes a sudden stop. Sudden stops should also be avoided by the school bus so as to prevent a collision by a following vehicle. Standees are particularly vulnerable in sudden panic stops.

(vi) Signal before making a turn, and further ensure safety by looking to see whether a vehicle is approaching from the rear. Do not pull out from the curb until observing that all is clear.

(vii) Always keep both hands on the steering wheel and keep eyes on the road ahead while driving. Look behind before backing. Reduce backing to a minimum and always have a responsible guide.

(viii) Do not back the bus on school grounds, or at loading or unloading stops, without proper signals from another responsible adult.

(ix) Do not operate the bus with the clutch disengaged except when coming to a stop.

(x) See that no pupil is allowed to occupy any position that will interfere with the vision of the driver or his driving.

(xi) Always make a complete stop at highway intersections protected by "STOP" signs, and exercise the utmost care before proceeding.

(xii) Do not leave the bus without first stopping the motor and setting the brakes.

(xiii) Never leave the bus as long as there are pupils in it.

(xiv) In case of accident or breakdown, if absolutely necessary dispatch an older boy for help.

(xv) Keep the doors closed at all times when the bus is in motion.

(xvi) Never operate a school bus after drinking an alcoholic beverage.

(xvii) Do not allow the gas tanks to be filled while pupils are in the bus.

(xviii) Fill the gas tank completely before each trip in the winter months, thus maintaining the greatest possible fuel supply in case of emergency.

(xix) Maintain the fire extinguisher and first aid equipment in first class condition and be familiar with the use of such equipment.

(xx) Observe carefully the number of pupils getting off the bus, and account for the safety of all these pupils before proceeding, especially when pupils must cross the road.

c) The Transportation Department, in conjunction with the drivers, will establish all bus stops and transfer points at locations which provide a clear view for on-coming vehicles, adequate space for the assembly of the students using the stop, and where necessary for reasons of safety for the parking of the bus off the road.

d) From time to time the Transportation Department will check the safety of certain routes, including driving procedures, bus stop locations and other possible hazards as may be found on these routes. The number and frequency of these spot checks will be at the discretion of the Transportation Department.

3. Rules of Conduct for Students

Riding a bus is a privilege and not a right. This privilege may be withdrawn if a student is guilty of any misconduct which is a threat to the safety of himself or others on the bus.

a) While riding on the bus, students are responsible to their principal. The bus driver, under the principal's jurisdiction, will have the authority to control and discipline students being transported.

b) Students will observe the following rules of conduct while travelling on the bus:

(i) Arrive at the pick-up point on time.

(ii) Keep off the travelled portion of the roadway on the way to the pick-up point and while waiting for the bus.

(iii) Be certain that traffic is clear or stopped before crossing any roadway.

(iv) Board the bus in an orderly fashion.

(v) Be picked up and discharged only at designated stops.

(vi) Take their seats on the bus as directed by the driver and remain in their seats throughout the trip.

(vii) Keep books, lunch boxes and other bulky items under the bus seat, not in the aisle.

(viii) Keep arms and head inside the bus at all times.

(ix) Do not open and close windows, unless authorized by the driver.

(x) When boarding the bus in the afternoon for the homeward trip, those who will be first to leave the bus should occupy the front seats.

(xi) Do not create a disturbance, however slight, by molesting another student or touching another student's belongings.

(xii) Fire crackers, water pistols or any other dangerous or annoying toys are prohibited on school buses.

4. Student Discipline Procedures

a) When a student behaves in a manner which seriously prejudices the safety of the bus, the driver may take action as follows:

(i) If a teacher is in charge of the group, he will stop the bus at a safe location and consult with the teacher on what steps might be taken to eliminate the hazard. It is understood that if it seems necessary, the driver and teacher may agree that for the safety of all, they should return to the school.

(ii) If no teacher is present, the driver will stop the bus at a suitable location and advise the students concerned that he is being distracted, thus creating a safety hazard and that, in the interests of safety for all, the misbehaviour should stop. The driver shall at the same time advise that if the misconduct continues, he will inform the principal and where appropriate, will have to return to the school. It shall not be necessary for the driver to repeat this caution.

(iii) Under no circumstances should the driver attempt to mete out corporal punishment to any student, nor should he evict any student from the bus unless the safety of the operation of the bus is seriously endangered by the student. If a student is evicted the driver will ensure that the student is safe at the place dropped off and will telephone the parents immediately so that they may arrange the necessary transportation.

b) The driver will inform the principal in writing of any chronic misconduct by a student. The principal will then take suitable action to discipline the student concerned. In all cases, the principal will inform both the parents and the Transportation Department of the action to be taken.

c) For the first serious offence of a nature prejudicial to the safety of the bus, the principal will take suitable action which may include informing the parents of the student concerned by telephone that the student's bus privileges are suspended for one week. This will be confirmed in writing. For a further offence endangering the bus, the student's bus privileges may be withdrawn indefinitely or permanently cancelled. This decision will rest with the Transportation Department and the Business Administrator.

III. INFORMATION SYSTEMS

Most of the information needed by the Transportation Department can be gathered easily when required. However, certain types of data are more difficult to obtain and special systems are useful for collecting, retaining and using the information.

This chapter presents two such systems. The first is an integrated system for providing the information needed for designing routes, including the assembling of data on the locations of students to be transported*. The second is a set of separate approaches for monitoring the service provided on the routes and the safety of route operations.

1. INFORMATION FOR ROUTE DESIGN

Many pieces of information are needed before the route designer can begin his work. Of these, the most important is the location of the students' homes. Once a system is established for preparing this data, then a related system can be developed for summarizing and presenting the information on the appropriate form for the designer. For Boards with large transportation systems, a computer can be used to reduce the amount of clerical work involved in the systems.

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* - *Procedures for designing routes using this information are presented in the next chapter.*

INFORMATION NEEDED

To design or redesign routes, the Transportation Department needs information on:

- Students: the location, on a map, of each student to be transported, together with the school attended and grade.
- Schools: location of each school with transportation on a map, the grades in the school and its attendance area boundaries.
- Buses: the number size and owner of each bus and the location where the bus is stored when not in use.
- Roads: road map showing class and type of road surfaces, hazardous road conditions, bridge loadings and impassable roads.
- Routes: maps of any previous routes to serve as a guide in the new designs.

Information on school locations and buses should be readily available from the Board and the private operators, and road information from the Ministry of Transportation and Communications, or the local county or municipal engineering departments. Appropriate systems for providing data on student locations and routes are presented in the next sections.

Clearly, good maps are an important starting point for preparing all this data. The maps must be up-to-date, incorporate all usable roads and be of a large enough scale to locate students with sufficient accuracy. In Ontario excellent county and township maps showing lots and concession numbers to a scale of one inch to the mile are available from the Ministry of Transportation and Communications Map Office, East Building, Downsview, Ontario.

Other maps are available from the local county engineering departments. If out-of-county students are being bused, it may be necessary to purchase maps of adjoining counties and combine them to incorporate all areas from which students are bused. Road maps of municipalities are available from the local planning departments or tourist bureaus. Before using the maps, they should be checked with the county of municipal road department to incorporate changes in the roads which may have been made since the date of printing the map. The maps may then be cut into smaller areas, photographically enlarged or reduced and otherwise reproduced for use in the information systems outlined below.

STUDENT LOCATIONS

Before describing the approach to carrying out the initial survey of student locations and to storing and updating this information, it is useful to consider what requirements this data should satisfy.

Requirements of the System

The information system on student locations must be compatible with the approach used to design routes (as detailed in the next chapter). To do this, the system should satisfy the following requirements:

1. Provide for suitable cross-referencing and checking.

   Regardless of how it is collected, the data should be stored in such a way that the name and location of each student is specified together with the school to which he is to be transported. Also, the system should be designed to provide for ready cross-checking to ensure that all students eligible for transportation are accounted for and the information is correct.

2. Have the necessary accuracy.

   The location of the student's residence must be known to at least the accuracy of the Board's service policy on walking distance to the bus stop. Thus if, in rural areas, the Board attempts to pick up at the student's laneway, then the students need to be located by lot and concession. Alternatively, if in a town where all students are picked up at one bus stop, then their residency within the town need not be located.

3. Incorporate the forecasting of changes in schools attended.

   Through graduations from one school to another and the entry of new kindergarten pupils, the locations of students attending a particular school will change at least 25% to 30% from one year to the next and even more for small schools with only a few grades. To prepare the best and most economical routes for September, the information is needed as soon as promotions are decided upon in the late spring. The ability to forecast the locations of the students being bused to each school is critical if the Transportation Department is to have the necessary time to complete the redesign of the routes before September.

4. Provide the information in a form appropriate for working on route design.

   As will be seen in the next chapter, the process of designing routes is one that often requires numerous trials and adjustments before the final design is established. The student and the schools attended must be able to be easily reproduced on a road map to allow the designer to sketch on trial designs, make adjustments and check bus loadings and schedules.

5. Require as little input as possible from the principals, drivers and operators.

   Updating of the system should be able to be done by the Transportation Department with as little reference as possible to principals and drivers for information. Neither of these sources have the time and resources to provide all the information needed on a continuing basis. They should be called upon to provide only that data which they alone are in a position to provide.

The following approach is designed to meet these requirements:

Initial Survey

Most schools do not have sufficiently accurate records on student locations and it is usually necessary for the Transportation Department to carry out an initial survey for each school to which students are to be bused. Thus the survey is a one-time effort necessary to get the system started. The system outlined later is designed to provide the means to update the information as student locations change, without the need to survey again.

Assuming that the system is to be introduced for an area where busing already exists, then there are a number of possible sources of information on where students live, including the principals, teachers, bus drivers, parents and the students themselves. While in smaller schools serving rural areas the principals or drivers may be familiar with the location of most students' homes, in the larger rural schools and those serving urban areas neither of these sources can be expected to supply accurate information.

Normally the students themselves are the best information source. Those living in towns or in subdivisions near the cities know their addresses and, while few rural students know their lot and concession number, most of the older elementary and all secondary students can locate their residence on a map. The method used for collecting the data provides the means for obtaining the necessary information for the remainder of the students, as discussed in the following section.

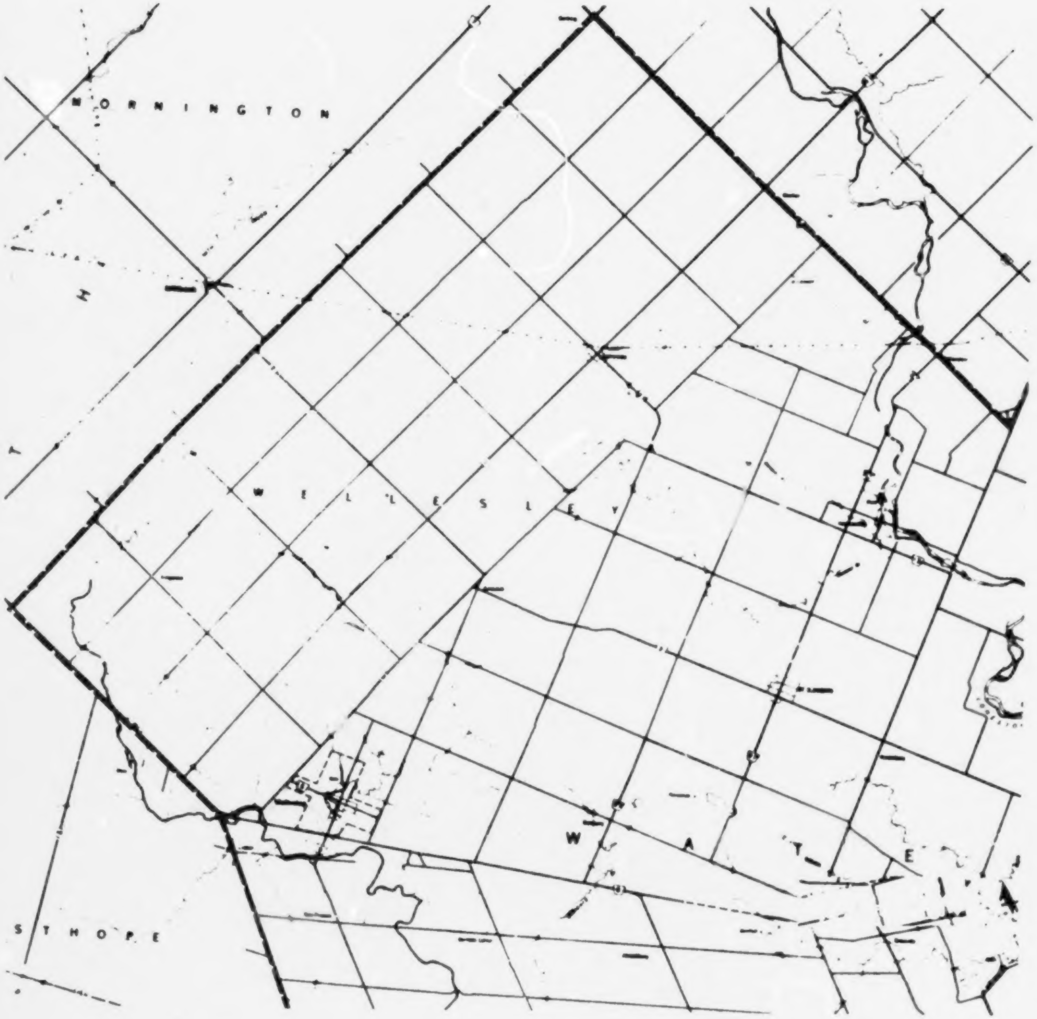
There are two possible approaches for collecting the information from the students: assembling them by class or by bus. There are several disadvantages to assembly by class. Firstly, each class has students that are widely distributed throughout the school's attendance area so that students cannot assist each other in determining their locations because neither is familiar with the other's area. Secondly, some schools do not have fixed classes in that some students take subjects with several different classes. Thus, students may be elsewhere when their class is assembled and others may be assembled twice. Finally, younger children in the lower elementary grades often cannot locate themselves on a map. Therefore assembling the students by class can be time-consuming and inaccurate.

Assembly of students by bus proves to be both more accurate and quicker. All students assembled are then from the same area and most are familiar with where along the route each student boarded the bus. This is particularly useful in the case of the younger children since older students can assist in locating them. Also, in the more urban areas where students are picked up in large groups at one location only, the total number of students at each location needs to be determined, whereas assembly by class would require each to be located separately with consequently much more time required. Finally, assembly by bus rather than class results in less disruption of the classes since only a few students from each class need to be called away, and no classes must be totally cancelled.

As far as possible the schools should be asked to provide the information using forms and procedures supplied to them for the purpose. Where the principal is unable to undertake the work, the Transportation Department staff will have to put staff in to complete the survey. The following procedure can be used:

1. Assemble students by bus: All the students travelling on a given bus should be assembled, either as they arrive in the morning, before they board the bus in the afternoon, or by an announcement of the P/A system during the day. P/A announcements should give the bus number, driver's name and area served, and all students eligible for transportation (as opposed to those riding that particular day) should be asked to assemble.
2. Record locations on student transportation forms:

   A special form should be prepared showing a road map of the township or region where the school is located, together with other information needed (Figure 3.1). Each student should mark the location of his house on the form with an "X", together with the other pertinent data on the form. Younger children who might have difficulty locating their homes on the map can be assisted by their teachers or by older pupils travelling on the same bus.
3. Assign each student a transportation number: Where lists of the names of students being bused are available, the students can be given a number before being assembled. Otherwise numbers can be assigned consecutively as the



SCHOOL____________________

GRADE____________________

NAME______________________________

TRANSPORTATION NO.____________________

TOWNSHIP____________________________

PARENTS NAME & ADDRESS

____

____

UPDATING INFORMATION

☐ REQUIRES TRANSPORTATION, NOT PREVIOUSLY BEING BUSED

☐ TRANSFERRED FROM ANOTHER SCHOOL WHERE WAS BEING BUSED

☐ CHANGED RESIDENCE

☐ HAS BEEN PROMOTED TO GRADE______

FIGURE 3.1

students are located. What numbering system is used does not matter. If the Board already assigns each student a number for other purposes, then this number can be used. Otherwise, a separate numbering system can be used. The number of digits should be kept to a minimum and, of course, care should be taken not to assign the same number to more than one student.

4. Double-check to ensure all students located: After the initial assembly of students, a second call can be made over the P/A system on a subsequent day to record those missed earlier. Absentee records should also be checked and absentees located on the subsequent assembly call or with the help of neighbouring students. Finally, the total number of student record forms should be double-checked with available records on the numbers of students being bused.

Data Storage and Updating

When complete, the survey will provide the Transportation Department with a student record form for all students requiring transportation. These forms should then be filed by school, grade and student transportation number. This will provide a ready means for retrieving any student's form when required.

The same form is used for keeping the file up to date during the school year. When a new student enters the school or when there is a change in the transportation requirements for a particular student due to changing residence or being promoted to another school, the principal sends the Transportation Department a new transportation form. On it he checks off one of the four reasons for change, each of which in turn provides the Transportation Department with the information needed to keep its files up to date and, if necessary, adjust the bus routes serving the school. The four changes are:

1. Requires transportation (student not presently being transported on the Board system. This would be an additional bus rider and the form would be added to the school's transportation record file in the Board office).
2. Transferred from another school where student was being bused. (Student record form is already on file under another school and form needs to be transferred to new school file).
3. Has changed residence. (Record form is already on file but map location has to be changed).
4. Has been promoted. (Record form is on file but must be filed under a new grade).

ROUTE DESIGN INFORMATION

Having determined the location of each student to be transported, the next step in the system is to transform this data into a form that can be used for designing the routes. The simplest form of system and one used by several Ontario Boards, is known as the pinboard system. This approach makes use of a map mounted on material suitable for using pushpins.

Students are located on the map using different coloured or numbered pins to indicate which students are attending which school or riding on which bus. When students change school or bus, the colours of their pins are changed, and when they change residence, their pins are moved.

The pinboard system has a number of disadvantages. Firstly, it is difficult to know which pin refers to which child since names or numbers are difficult to attach to the pins. As a result, it is very difficult to update and to use for forecasting new locations of students in September. Also, there is no way of reproducing the pinboard map to provide a working copy for the person designing the routes. Thus, considerable time must be spent back and forth between the pinboard and the map being used for trail designs.

The approach outlined below overcomes these disadvantages with a minimum of clerical effort. The basic technique uses transparent maps and overlays and incorporates an approach for forecasting September student locations earlier in the year.

Transparency System

This system has two components which, when combined, provide all the information needed to design routes:

1. Route Maps. Routes are marked on a large transparent map of each region using removable tape with a different colour of tape for each school or group of schools. This provides a route map which is easily and cheaply reproduced (using a normal blueprint machine) and readily altered (by moving the tape). The base map can be created by blowing up a road map of the area to a scale

sufficient to locate students accurately. Then a blueprinting transparency can be made from this original at any commercial printing company. A scale of at least one inch = one mile should be used, and the correct scale should be marked on the map. It will be helpful for measuring the length of routes if the map scale is a simple one and the enlarging of the map is done accurately.

2. Student/school transparencies. For each school, the location of the school and that of all students requiring transportation are marked in erasable ink on a sheet of clear plastic overlaid on the route maps. Within or beside each mark is written the student's transportation number. In areas where some buses may serve more than one school a different symbol is used for students attending each school (e.g. square, triangle, circle, etc.). At certain points, such as towns and subdivisions, where a number of students are located together and use the same bus stop, only the total number of students is marked on the transparency. In this way, the transparency for each school shows locations of all students being transported to it.

The number of route maps needed will depend on the size of the Board's area and the number of regions where buses operate. As many as five or six may be needed for a large county Board. There will be one student/school transparency for each school with transportation.

By printing the transparency together with the route map for the area in a blueprint machine the resulting print displays the student locations, the routes and the road map on one sheet of paper. When schools share buses, then two or more transparencies can be printed with the route map. In this way, a working copy can be provided to the route designer containing all the information necessary to design the routes.

Updating and Forecasting

When there is a change in the transportation requirements of a student, the principal sends in the change to the Transportation Department, using the student transportation form described earlier. As these forms come in during the year, the files are changed in the appropriate manner. Also, the student's mark on the student/school transparency is moved (if he has changed residence), added (if he has not been previously to that school), or changed from one transparency to another (if he has changed schools).

The Transportation Department can prepare forecasts of the new student locations in September using this information, supplemented where necessary with information from the school principal. Since the Board office has records of all students being transported filed by grade, and since the majority of students are promoted each year, then a forecast of September student locations can be made by moving all files up one grade. If, as early as possible in the Spring, the principals can supply lists of students *not* promoted, then the Transportation Department can determine which students are changing or leaving school, and can prepare its forecast of student locations for the coming year.

With this information the Transportation Department changes the appropriate schools for these students by moving their marks from one transparency to another. Information is gathered as early as possible on new kindergarten students, either from the schools or parents. In addition, attempts should be made to obtain information on new families moving into the area via the schools, township offices, advertisements in the press or other means. Transportation record forms are obtained for these students, marks added to the transparencies and the forms filed. In this way, a forecast of September student locations can be made in sufficient time to permit redesign of the routes before the new school year.

By printing the transparencies (which now have the new student locations on them) with the route maps (containing the existing routes), the designer can determine whether any of the existing routes can still be used and, if so, what adjustments will be required. If the student locations have changed considerably, as will normally be the case, then he may choose to print the new student locations onto a blank map without the existing routes, so that a complete redesign may be prepared.

Every two or three years, the transparencies should be printed on a blank map and returned to the schools for checking. The principal or the teachers can then make any revisions and return the print together with revised transportation record forms for the students involved.

USING THE COMPUTER

As discussed in more detail in the next chapter, it can normally be expected that the school destinations of between 25% and 30% of the students being transported will change each year. Each change requires two clerical changes by the Transportation Department: the refiling of the transportation record form and the moving of the student's mark and number from one student/school transparency to another. In addition, there are changes which take place during the year which require refiling of the record forms and changing the transparencies. For a Board with a large transportation system, carrying, say, 10,000 students, this can mean that changes must be made for 2,500 to 3,000 students each year.

For larger Boards with access to a computer, consideration should be given not only to filing student locations using the computer, but also to building in the ability to forecast new student locations each year and producing the information in a form appropriate for route design. These are not complex computer applications, but care should be taken when implementing them to ensure maximum efficiency in operation of the final systems.

Student Locations

Filing and updating of the information on student locations can be readily adapted to computer use. To file the information on the student record form, a numbered grid system should be established for the entire area served by the Board, the distance apart of the grid lines being sufficient to locate the student with the accuracy required by the Board's policy on walking distance to the bus stop. The grid can be marked in light lines on the transportation record form or, if this makes reading the road maps difficult, a special template can be made to transform the map location into the appropriate grid co-ordinates.

Once the grid has been established, then about 75 characters of storage will be necessary to file all the data required for each student:

Information	Storage Required
Student Identifying Number	5
Student Name	15
Student Address (Mailing)	20
Student Address (Location)	20
School District	2
School Symbol	2
Grade Symbol	2
Location Co-ordinates	4
Bus Route Number	3
Miles Transported	2
	75

Once stored, the information can be easily updated. When changes are required, each student's record can be retrieved using the unique transportation number. The necessary changes can be made and the record refiled. Periodically a printout can be made, by school and grade, for checking by the schools concerned.

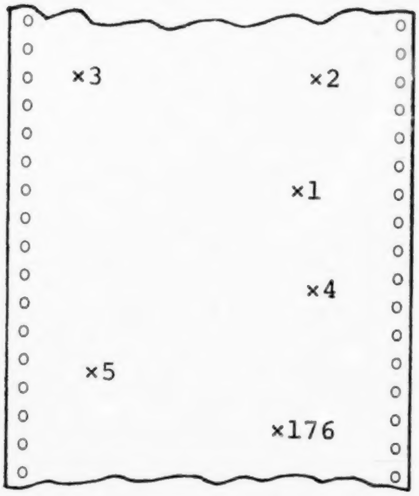
Route Design Information

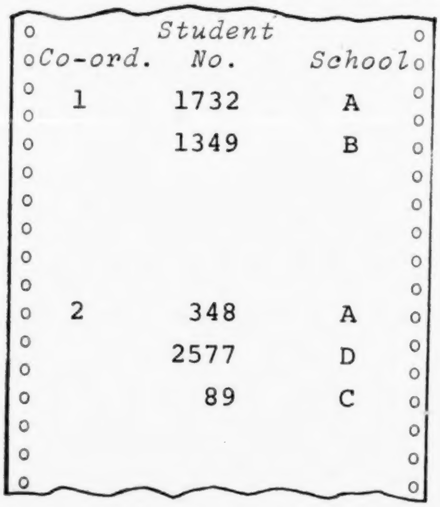
The computer can readily forecast student locations and arrangements can be made to print out this information in a form which can be turned into a transparency which is compatible in scale to the route maps.

In the Spring, projections can be made with a program that will promote all students up one grade. Students being promoted from the top grade in an elementary school would automatically be assigned to the secondary school serving their location. The new student status could then either be recorded permanently in the student master file or placed in a temporary file for trial purposes only, with subsequent erasure. If information is available from the principals on students not promoted, other students not following the normal progression, or new kindergartens, then these exceptions can be designated as input to the program.

Once these projections have been completed, the new student file can be used to prepare a plot of the student locations using a line printer. A computer line printer normally works on a matrix principle. Co-ordinates of the matrix can be used to accurately position the student's geographic location, together with his transportation number, on the printout using the same scale as that used for the route maps. Once the printout is made into a transparency it can then be printed with the route map in the same way as the manual system described earlier.

Different symbols on the line printer printout can be used to designate to which school the student is being bused. When a number of students are located at a given co-ordinate, then the program can instruct the computer to number that co-ordinate and list the student numbers and schools on a separate printout. The result is two line printer printouts:





Co-ord.	Student No.	School
1	1732	A
	1349	B
2	348	A
	2577	D
	89	C

If desired, the format of these can be arranged so that they can then be joined together before being converted into the transparency. In this way, lists of students at each co-ordinate could appear down one side of the transparency. When printed with the route map, the resulting print would then provide all the information needed by the route designer for that area on a single sheet.

Introducing the System

Naturally, the feasibility and cost of developing such a system on the Board's computer facilities must be examined before deciding to implement such a system.

- Hardware: The computer hardware needed for an information system of the type described above will depend to a certain extent on the size and sophistication of the system and economic considerations. The system, however, does not require complex equipment and the basic computer configuration could include:
  - Input Device - a card reader is the most convenient, although on smaller computers a keyboard could be used.
  - Central Processing Unit - the size of this unit will depend on the requirements of the programs and sophistication of processing. However, even a fairly small unit (± 8,000 characters storage) would provide sufficient capacity to run a simple transportation system, and 32,000 characters should be sufficient for even the largest system.
  - Storage Device - Storage used could range from a card file to more sophisticated magnetic devices allowing electronic random access to records.
  - Output Device - A line printer would be needed, which could, with much greater system and program sophistication, be supplemented by an on-line plotter. However, the use of a plotter would involve a fair investment in hardware and programming, hardly justified for this use.

- Software: Varying degrees of software sophistication can be built into the computer programs that will store, retrieve and manipulate school busing information. However, the basic programs should include:
  - An edit program to ensure as far as is possible that information being entered into the computer is correct and does not contain omissions or mistakes.

- Data storage retrieval and file maintenance programs which can be combined with or run separately from programs producing reports.
- Programs producing the various reports required.

The computer-assisted approach has many advantages for a Board with a large transportation system. It reduces the amount of clerical work, eliminates the need for extensive files, and provides for easier forecasting and retrieval compared to the manual approach. It also provides the opportunity to undertake further development of the system to help prepare lists of students on each bus and to carry out other analyses of use to the Transportation Department.

On the other hand, a Board could not introduce such a system without a fully competent computer department staff in close co-operation with the Transportation Department. Often, system design work and the form that both input and output will take are determined entirely by the computer systems analyst. If the Transportation Department does not actually participate, it may not get what it considers a workable system and may become disinterested in the approach. To make such a system fully operational, staff from the Transportation Department should be intimately involved in its development.

2. SERVICE AND SAFETY MONITORING

As part of the job of controlling routing operations, the Transportation Department needs to monitor the level of service being provided and the safety of that service. Measures of service and safety then need to be compared with the Board's transportation policy to determine where there are shortcomings and what actions need to be taken.

Compared to the information system for route design described earlier, the approaches for monitoring both service and safety are relatively straightforward. They are, nevertheless, very important elements of the Transportation Department's continuing control of route operations.

MONITORING SERVICE

To maintain a constant check on the level of service the Transportation Department should carry out regular service surveys, as well as keep a record of all complaints and enquiries it receives.

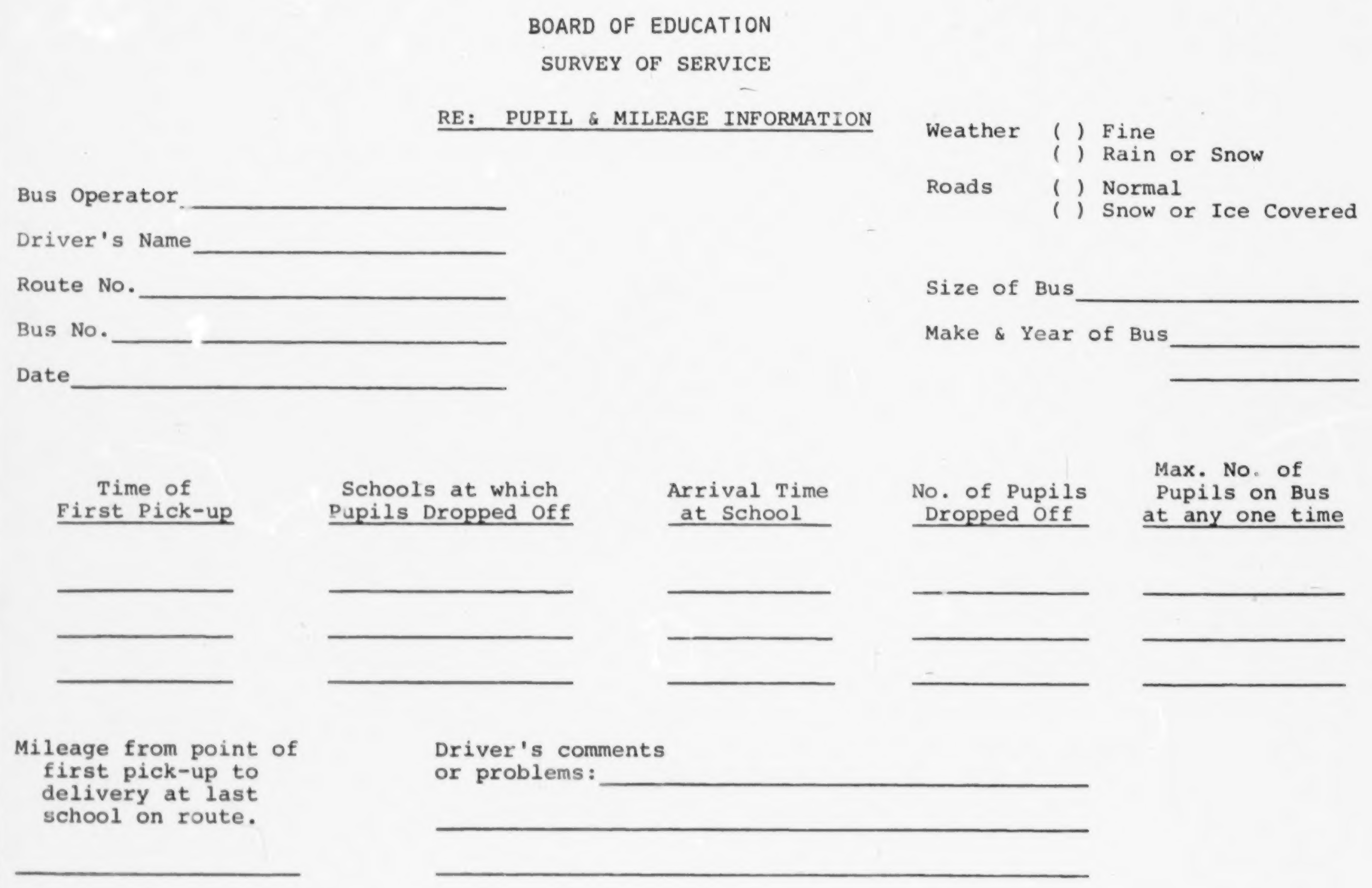
Service Surveys

To avoid complaints during the year, to check that service is adequate and to determine where problems exist or are developing, the Transportation Department should conduct a periodic survey of all the routes. The Board drivers and each private operator are given survey forms to complete, one for each route, and instructed to carry out the survey on a given day. The forms request specific information about the timing and loading of the bus on the route, together with other information on the bus size and age, the driver's name, mileage, etc.. (Figure 3.2).

These surveys should be carried out at least four times during the year:

1. As soon as possible after school opening (preferably on the second or third day to detect where problems are being encountered).
2. At the end of September (to confirm that any initial problems have been successfully overcome and that no new ones have developed).
3. Shortly after the first major snowfall (to check loadings when students who have been previously getting to school by some other means during the fine weather decide to ride the bus, and to check timing of buses under slower winter road conditions).
4. In late January (to check that no new problems have arisen).

At a glance, these forms can tell the Transportation Department whether routes are starting too early, arriving too late, are overcrowded, are longer or shorter than what the operator is being paid for, or whether the driver is having any particular problems that concern him. By comparing a survey with preceding ones, it can be seen whether a private operator always uses the same bus on the route or



BOARD OF EDUCATION

SURVEY OF SERVICE

RE: PUPIL & MILEAGE INFORMATION

Weather ( ) Fine
( ) Rain or Snow

Roads ( ) Normal
( ) Snow or Ice Covered

Bus Operator ____________________

Driver's Name ____________________

Route No. ____________________

Bus No. ____________________

Date ____________________

Size of Bus ____________________

Make & Year of Bus ____________________

Time of First Pick-up	Schools at which Pupils Dropped Off	Arrival Time at School	No. of Pupils Dropped Off	Max. No. of Pupils on Bus at any one time

Mileage from point of first pick-up to delivery at last school on route. ____________________

Driver's comments or problems: ____________________

FIGURE 3.2

whether he is changing drivers frequently. The first survey of the year can also be used to test the accuracy of the system for forecasting student locations and designing routes. The survey after the first snowfall compared to the late September survey can provide a measure of the percentage of possible riders who are riding bicycles or getting drives during good weather.

Record of Complaints and Enquiries

The Transportation Department needs a record of the enquiries reaching the Board offices.

Enquiries normally take the form of complaints about some aspects of the bus system, requests for transportation for students not presently being bused, or general information requests. To some degree, the number of complaints received is a measure of the Department's success at controlling the transportation system and identifying potential problem areas before they reach the stage of generating complaints. Objectives should be set to reduce complaints from one year to the next and the Transportation Department should include progress in this respect in its yearly report.

A form for recording these enquiries, the information needed for follow-up and for noting the action taken is shown in Figure 3.3.

BOARD OF EDUCATION

- ENQUIRIES RECEIVED BY TRANSPORTATION DEPARTMENT -

DATE	TYPE*			APPROACH		NAME	PHONE NO.	SCHOOL	OPERATOR	NATURE OF ENQUIRY	ACTION TAKEN
	C	R	I	PHONE	LETTER						

* C - COMPLAINT
R - REQUEST FOR TRANSPORTATION
I - INFORMATION

FIGURE 3.3

MONITORING SAFETY

The Transportation Department should monitor the vehicle maintenance, drivers fitness and route safety against its established policies through a program of regular checks. From these inspections of both private and Board operations, a comparison can be made of the safety performance of the various operators and between the private operators and the Board operations.

Maintenance

The Board must be assured that all vehicles used for student transportation are in top mechanical condition. Even though there are semi-annual inspections by the Ministry of Transportation and Communications as well as occasional spot checks, the Board should have its own program of spot checks. These checks should be made by a qualified mechanic, based on a random sampling of Board and private operators' vehicles. The general condition of the vehicle including such items as the exhaust system, lights, brakes, tires, etc., should be checked and a report sent to the Transportation Department with a copy to the owner, if a private operator. A suggested form for the inspection is shown as Figure 3.4

If any vehicle fails the inspection, the operator should be required to pay the cost of the inspection. If the vehicle is found to be satisfactory, the Board would pay the cost.

BOARD OF EDUCATION VEHICLES INSPECTION

Operator______________________________ Bus #__________ Odometer Reading________

Date of Inspection__________________________

	O K ✓	Necessary Repairs	Date Made
BODY			
General Condition			
Entrance Door & Step			
Emergency Door			
Door Controls: Front & Rear			
Glass, Windows, Windshield			
Upholstery			
Seats tight to floor			
Rearview Mirror			
Windshield Wipers			
Stop Signal Devices			
CLUTCH TRANSMISSION			
Pedal Release & Clearance			
Univ. Joints & D.S. Bearings			
REAR AXLE			
Rear Springs, Clamps & Shackles			
Rear Wheels Tight			
GENERAL			
Radiator & Grille			
Fenders, Cowl & Bumpers			
Gas Tank & Fuel Line			
Dash Instruments			
Lights			
Horn			
Lubrication			
Cleanliness, Interior of Body			
FRONT END			
Spindles & Wheel Alignment			
Tie Road & Drag Links			
Front Springs, Clamps & Shackles			
Steering Mechanism Tight to Chassis			
BRAKES			
Service Brakes			
Parking Brakes			
Pedal Pressure & Clearance			
Brake Equalization			
TIRES			
Front: right & left			
Rear: right & left			
Proper Inflation			
MOTOR			
General Condition			
Motor Supports: front & rear			
Oil & Air Filters			
Fuel & Water Pumps			
Manifold & Exhaust Line			
Fan Belt			
Alternator/Generator & Distributor			
Battery & Starter			

Was road test made by mechanic? Yes____ No____

SIGNED______________________________ (Mechanic)

FIGURE 3.4

Route Safety

To ensure that all routes are designed and maintained with an optimum of safety the Transportation Department should have a program of spot checks of the safety of the routes. These spot checks should be as frequent as the limitations of staff permit. The staff member should follow the bus on its route and check the safety factors in the bus pick-up points, transfer points and generally any potentially hazardous situations which the students might encounter either boarding the bus or walking to the bus pick-up point. From such an inspection the routes may be altered to eliminate any hazards and avoid the possibility of injury to students.

Drivers

Every three years, all drivers under the age of 65 are required to pass vision tests, tests on the rules of the road, a physical examination and, if warranted, a road test. Those drivers over 65 must complete these tests annually.

The Transportation Department should keep a record of all drivers, which shows when they completed the required tests and the bus and route they normally operate. From such a record the Transportation Department can identify each driver and through its own spot checks can see if the operator is changing drivers frequently.

A spot check of driver operating procedures should be carried out on a regular basis to ensure the driver is following the recommended operating procedures. These checks can be combined with the spot checks of route safety and should be carried out by a representative of the Transportation Department.

IV. ROUTE DESIGN AND PLANNING

The major proportion of any Transportation Department's budget is devoted to the operation of regular daily routes. Therefore, the Board's cost for transporting students is largely dependent on the efficiency of its system of routes. Clearly, then, route design and planning for future route needs are two of the Transportation Department's most important functions.

Once the Board has established explicit service policies (see Chapter II), then the route designer's basic objectives are relatively straightforward; that is,

1. to reduce cost by employing the minimum number of buses travelling the least number of miles, while
2. satisfying the Board's policies on service to be provided to the students.

In many areas of the province with few roads and schools, the designer has relatively few routing options. If, however, the students are distributed over a wide area having an extensive system of roads - as for example the grid plan of roads existing in most southern regions - then there are many alternative route patterns requiring different numbers of buses and total miles of routes. To minimize the Board's transportation costs, the designer must find the lowest cost alternative and make the necessary plans to ensure adequate control over future costs.

While conditions vary somewhat across the province, the purpose of this chapter is to outline some of the basic approaches to route design and planning by

- discussing who should be responsible for route design and when and how often routes should be re-designed.
- presenting the fundamental principles of route design
- describing detailed design methods, including both manual and computer-aided approaches
- outlining how the routes can be implemented
- discussing approaches to route planning.

1, RESPONSIBILITY AND TIMING

In some Boards route design is the operator's responsibility, in others it is the Transportation Department's. Some Boards re-design routes each year, others maintain the same routes over periods of years. Thus, there are questions to be resolved concerning who should design routes and when. While there will always be special circumstances, as general rules the following answers should apply:

- Responsibility for route design should always rest with the Transportation Department, not the operator.

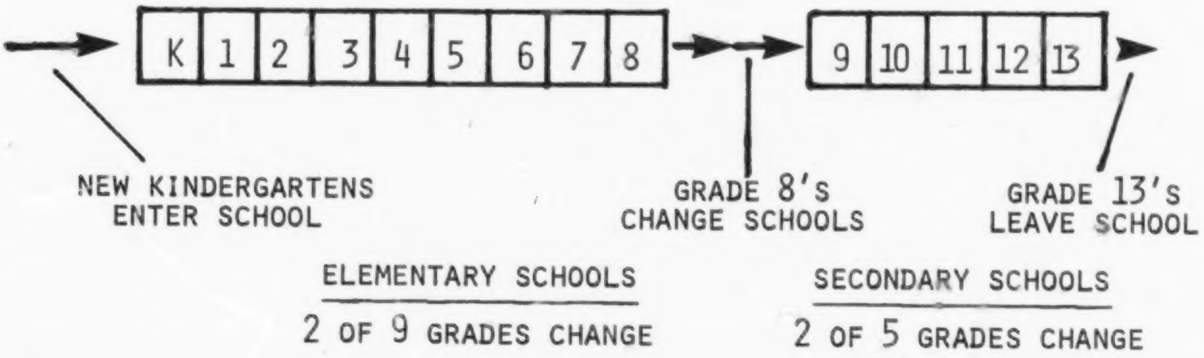
  There are a number of good reasons for this. First, the Board should know the locations of all students to be bused, and it should have a system for converting this information into the form needed for designing routes (see Chapter III). Second, the Transportation Department has direct access to the main source of information for updating this information - the school principal's promotion lists. No matter how familiar he might be with the area, the operator does not have this information, nor should he be expected to obtain it.

- Routes should be thoroughly reviewed and re-designed each year.

  The routes should be re-designed whenever the locations of students travelling to a given school have changed significantly enough to alter the bus loadings on the established routes. The number and distribution of students going to a particular school will change when

  (i) families move in and out of the area
  (ii) families change residence within the area
  (iii) the attendance area changes
  (iv) students enter or leave the school.

Except in regions experiencing rapid growth where attendance areas are being adjusted regularly, the major changes from one year to the next will be due to the last cause, as students leave high school, as new kindergarten students enroll, and as students are promoted from elementary to high school. Consider the extent of this change:



Thus, assuming that there are approximately twice as many elementary students being bused as secondary, from one year to the next this process alone produces a 28% change in the locations of students to be transported to all schools under a Board's jurisdiction. For Boards with a significant number of smaller schools with few grades, this proportion increases significantly (for example, it is 66% for a three-grade school). These major changes take place each year. The basic information about them - promotion lists, locations of new kindergarten students and planned changes in attendance areas - must be available early enough for the Transportation Department to assemble the information, redesign routes and inform the operators and students prior to September. To provide the time necessary for these activities, the Transportation Department should begin its annual redesign of the routes in the Spring of each year, using the systems and procedures presented in Chapter III.

2. ROUTING FUNDAMENTALS

Before discussing detailed approaches to designing routes, it will be useful to outline some basic concepts, including the types of routes which may be used and bus scheduling on the routes.*

ROUTE TYPES AND SERVICE

There are a number of possible approaches to laying out routes and to providing service on the routes. There are two basic types of route layout and three further routing techniques for improving efficiency. Finally, there are a number of different ways in which the routes can be served.

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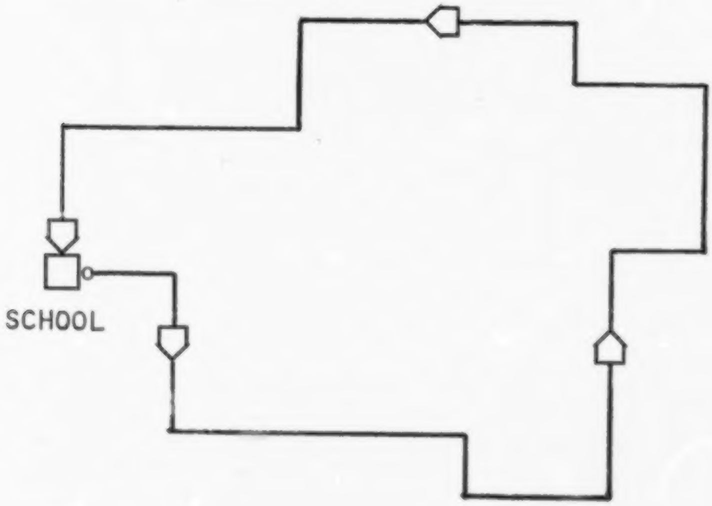
* *Parts of this section have been drawn from the Transportation Management Handbook, University of the State of New York, the State Education Department, Albany, N.Y. 1967.*

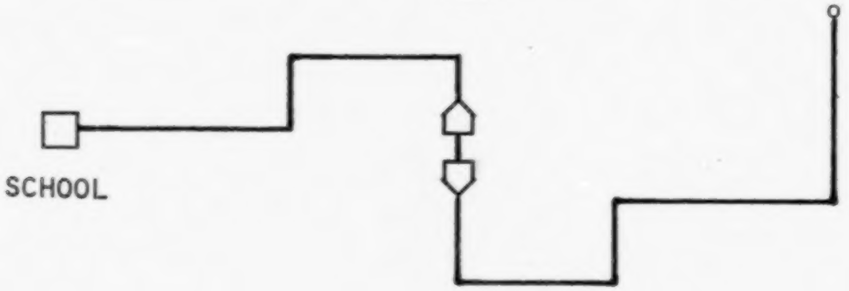
Basic Route Layouts

To start with, the route designer needs to be familiar with the types of route which may be used, either individually or in combination. The two basic types of route layouts are:

1. Circular or one-way route is a main or trunk route which circumscribes an area by using different roads on the outgoing and incoming trips. On a given trip, none of the mileage is covered in both directions. The circular route has the advantage of equalizing the time which pupils spend on the bus. This is accomplished if the bus travels in the same direction on each trip so that the first child on in the morning is the first off at night. In this type of route, the first children to board the bus are normally transported over a very indirect route before arriving at school.



2. Direct or two-way route is a main route which extends from the school to some terminal point in the district. Regardless of where it is stored, the bus uses the same roads for both the incoming and outgoing trips, that is, travels both ways on the same roads. On this type of route, the students travel more directly towards the school compared to the circular route. However, the first students on in the morning are also the last off in the afternoon, which means that the time spent on the bus by all students cannot be equalized. The degree of "directness" of such routes can vary from a straight route between towns along a main highway to a less direct route picking up students throughout an area, but always heading more or less towards the school.

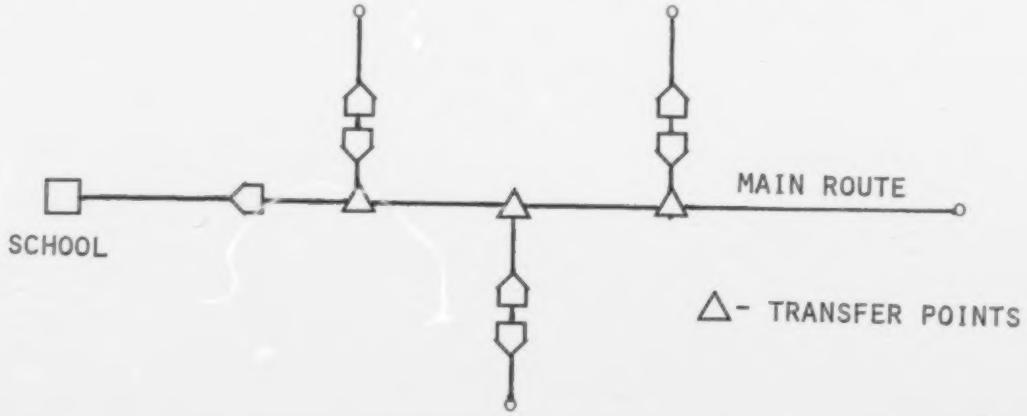


Routing Techniques

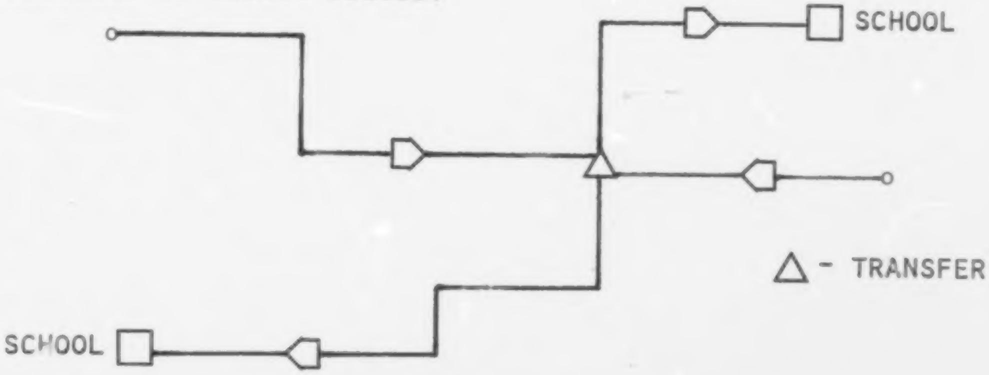
The designer may vary the basic route types through the use of one or more variations or techniques which include the use of transfers, turnarounds and having the route serve more than one school. Each of these approaches has advantages, but can only be used when particular circumstances permit.

1. Transfer route involves the introduction of a transfer into the route types discussed earlier. Whether or not transfers are permitted should be covered in the Board's transportation policy. While often a useful technique for improving operating efficiency or shortening the time students spend on the bus, it should be remembered that a transfer effectively reduces the level of service provided on a route because of the inconvenience caused to the students. Also, transfer points have to be carefully located to ensure that the students can change buses safely. With these qualifications in mind, three different approaches incorporating transfers can be used.

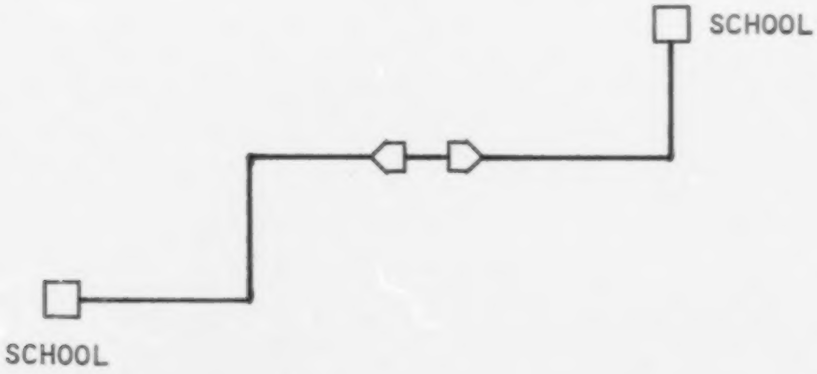
   a) Feeders: Short routes may be introduced to pick up a relatively small number of students and then transfer them to buses travelling on more-or-less direct routes to school. This approach may be employed where relatively few students live on certain secondary roads and cannot be served using the main bus, either because the students are too far apart to be served economically, or because the roads are impassable for large buses. Small vehicles including snowmobiles, cars, vans or small buses are usually employed on such feeder routes.



b) Interlocking: Under certain circumstances, it may be desirable to arrange for two routes to cross and at that point to transfer students from one bus to the other or to exchange students between buses. The two buses then carry on to different schools. This approach may be necessary when the attendance areas are not regular in shape but in some way interlock, so that students at the farthest point from one school are picked up initially by a bus destined for a different school. Other features of the local road system and/or student distributions may dictate the use of interlocking transfer routes. The two routes which interlock may be either circular or direct routes.

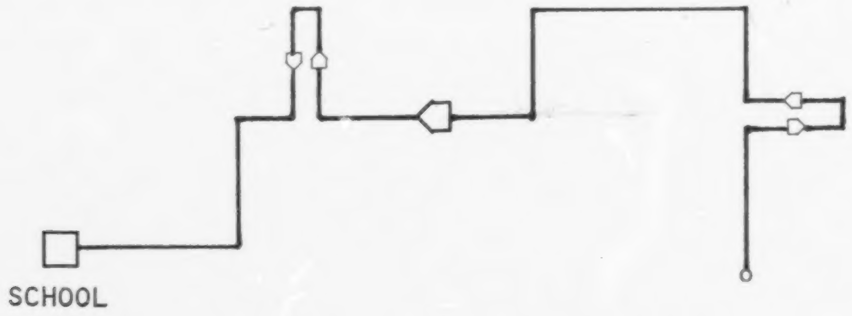


c) Shuttle: Finally, a route may be used which merely shuttles students between schools. In this way, students are dropped at one or both schools and a different bus (often one that has already completed a normal route) distributes the students to two or more nearby schools. This type of route is often introduced as an alternative to the multi-school route and can prove useful in areas where there are a number of schools. It is also employed during the day to transfer students from one school to special facilities or instructional programs in another school.



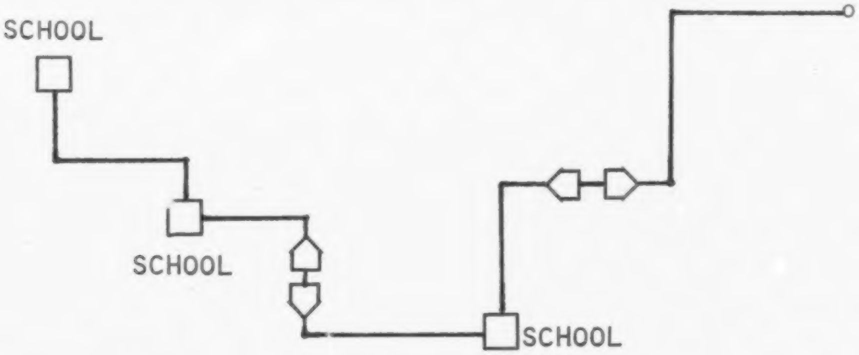
2. Turnarounds. Frequently, it may be uneconomical to route a bus along a road where only one student or small group of students live at a point part of the way along the road. Or, there may be occasions when for reason of route efficiency the designer may not wish to have a bus travel on a particular road. In these cases a turnaround may be incorporated into the route. The bus proceeds along the road to pick up the students, then turns around at a convenient location, retraces its path back to the next crossroad and proceeds on the main part of the route. In this way, the turnaround can also be used as an alternative to feeder routes when road conditions permit. The turnaround should be used only when a safe place is available for the reversing to take place, and turns on busy highways should be avoided. Also, because the bus

retraces its path, the turnaround can lead to inefficiencies if used too often on a single route.



3. Multi-school route is a type of route layout in which students are picked up then dropped off at one of several schools located on the route. Thus, students destined for two or more schools may be travelling on the bus at any one time. Since the bus arrives at the schools in sequence, it is important that the travel time between schools is not too great or else students will be dropped off too early at the first school, or too late at the last. The usefulness of this type of route is therefore primarily dictated by the distances between schools in the area. The multi-school route is particularly useful in areas where there are towns, subdivisions or other concentrations of students along the route between schools. In this case, students can be dropped off at the first school, and the bus filled up again before reaching the second, thus increasing the utilization of the vehicle. In basic design, the multi-school route can be either a circular or a direct route type. It does, however, present quite different timing and scheduling problems,

particularly in terms of arrival and departure times, for the schools concerned.



Types of Service

In addition to the basic layout of the routes, the designer must consider the various methods of serving or operating the routes. The approach to serving the routes will have an important effect on both the quality of service provided to the students and the economy of operations. There are three types of service:

1. The single trip involves a morning and an afternoon trip by one bus on each route. This form of service is common in sparsely settled regions or schools with large attendance areas. The single trip plan requires a maximum number of buses and drivers as each route is covered but once, and each bus serves but one route.
2. The multiple trip calls for each bus to cover two or more *different* routes morning and afternoon. Often called the double or triple run, this approach is well-suited to more densely populated areas where distances between the students and their schools are not great. It is a particularly efficient type of service when large numbers of children live in towns and subdivisions relatively close to school.

In this case, the bus can serve a normal circular or direct route bringing students from farther out in the region on its first run, then operate a shuttle service to a nearby concentration of students on its second or third run. Providing the scheduling can be worked out satisfactorily, this plan for serving the routes can be very economical because it uses fewer buses.

3. The dual trip plan, also known as dual routing, calls for two or more morning trips and two or more afternoon trips over the *same* route by each bus. Like the multiple trip, this arrangement is feasible only in areas where students are concentrated over relatively small areas and the distances between students and their schools are short. This approach does, however, have the advantage of transporting more students with one bus than the single trip.

STOPS AND SCHEDULING

As discussed above, there are two basic route types, with variations, and three approaches to serving these routes with buses. In addition, the route designer must be aware of the criteria for locating bus stops and transfer locations and of how to determine bus schedules on the routes. With this information he will have all the basic alternatives available for route design and scheduling.

Bus Stops and Transfers

The location and spacing of bus stops will be very much dependent on the Board's service policies, the density of students in the area, and local road configurations. Maximum distance between stops will be dictated by the Board policy on the maximum distance students must walk before boarding a bus. Obviously, the stops cannot be spaced more than twice this distance apart. Where students' homes are located far apart, then it is logical to pick up each student at his residence or laneway. Where students are located in towns, subdivisions or other groupings, then a stop can be established in a safe place convenient to all.

A few general rules should be observed when locating stops, mainly relating to safety considerations:

- where a stop is to serve a large number of students, try to locate it where the bus can pull off the road and return to the road while moving forward and in clear view of oncoming traffic.
- locate stops in such a way that children do not have to cross or walk along a main highway to get to and from the stop, and generally try to reduce crossing of roads as much as possible.
- avoid stops on hills with an appreciable grade, and if such stops are necessary, they should be served while the bus is travelling downhill.
- avoid stops on sharp corners and other locations where visibility may be limited for oncoming vehicles.

Transfer locations are really a particular category of bus stop, made more important, however, by the usually larger numbers of students being transferred and the need to be able to park two vehicles at the stop. On certain types of routes, transfers can be arranged to be placed at schools where there is ample room and an awareness of the safety precautions needed. On others where transfers must be made away from schools, it is advisable to try to locate the transfer points in small towns or at corner gas stations where space exists for both buses to pull off the road. Open road transfer points should be avoided.

Speeds and Timing

Once a route has been established and the stops located, all that remains is to determine the time of arrival of the bus at the various points on the route and at the school, and ultimately whether the route can be operated within the time limits set out in the Board's service policy. Schedules can be quickly determined once the route designer knows:

- Average bus speeds between stops will vary primarily with the types of roads travelled and the distance between stops, and to a lesser extent with the size of the bus and the driver. Rather than attempt to make allowances for all these variables, it is common to assume an average speed between stops based on the designer's experience with previous routes and actual clocking of buses in the area. These speeds should normally be based on winter road conditions. For normal, unpaved Ontario roads, average speeds can vary between 20 and 30 m.p.h., and on highways up to 45, depending on the frequency of stops.

- Numbers of students on and off at the stops will also be a factor in the timing of a particular route. It takes a certain amount of time for a student to embark and disembark, and the average time per student varies somewhat with the number of students, there being a given time delay before the first students embark and before the bus starts after the last student is on. This is a factor which can be easily measured by riding on a few routes and timing the various loading and unloading sequences. Generally, it can be assumed that a bus will stop for a total of between three and five seconds per student, the lower pertaining to routes with large numbers of students per stop.
- Other stops and special conditions. Where a route has a transfer or where other time delays can be expected (such as stop lights or congestion problems in towns), allowance must be made in the calculation of route timing. Also, for roads or parts of routes on which timing problems have been experienced in the past, the designer may wish to make some allowance in the schedule.

As an example of the necessary calculation, consider the following route: Bus travels five miles picking up 20 students, meets another bus and receives 10 transfers, proceeds for four miles picking up another 20 students, before dropping 30 off at the first school, then proceeds five miles picking up 40 students before unloading the remainder at a second school. Average speed is 25 miles per hour (or 2.4 minutes per mile), embarking and unloading time of five seconds.

Segment #1 to transfer	Minutes	Timing
Start time		8:00 a.m.
5 miles @ 2.4	12.0	
20 students @ 5	1.7	
Arrival @ transfer	13.7	8:14 a.m.
Segment #2 to first school		
10 students transfer, say	2.0	
Start from transfer		8:16 a.m.
4 miles @ 2.4	9.6	
pick up 20 students @ 5	1.7	
Arrive at first school	11.3	8:27 a.m.
Segment # 3 to second school		
Drop 30 at first school @ 5	2.5	
Start from first school		8:30 a.m.
5 miles @ 2.4	12.0	
40 students @ 5	3.3	
Arrive at second school	15.3	8:45 a.m.
60 students off @ 5	5.0	
Completion of trip		8:50 a.m.

3. DESIGN METHODS

With such a variety of routing layouts and service types, the designer has a range of possible solutions to each routing problem. Design can become complex for schools busing large numbers of students over extensive road systems. However, the benefits to the Board from thorough route design work can be great. Not only can students' journeys be shortened, but for every bus saved, annual transportation costs can be reduced by $4,000 to $6,000 and for every mile by which the route lengths can be reduced, a further $30 to $40 can be saved. Clearly, since these route costs account for the bulk of the Board's budget, efficiency in route design becomes of primary importance to the total transportation budget.

It is impossible to specify in detail how the designer should approach his task. Conditions vary considerably across the province, some presenting the opportunity of more straightforward approaches than others. However, two general methods can be discussed. The first is a manual approach which can incorporate the use of the information systems discussed in Chapter III. Secondly, various computer programs have been developed to deal with the school bus routing problem, with varying degrees of success.

MANUAL APPROACH

This approach involves careful data preparation and an iterative or trial and adjustment method for designing the routes. The same basic procedure can be used for both simple and more complex routes.

Data Preparation

The basic data requirements have been discussed in Chapter III, including information on road conditions, bus fleet and student locations. The starting point is a road map of the area with the locations of all students to be bused also printed on it. The transparency system described in Chapter III will produce this type of print.

If the designer is attempting to minimize total mileage of the buses in the proposed system and not just route mileage, then the location where each bus is stored should also be marked on a map. This information can then be used when deciding on the starting points of the routes so as to reduce the deadhead mileage as much as possible.

Next, the numbers of students in each town or subdivision are totalled, and the locations of individual rural students are grouped into one of three categories and each group circled and totalled on a map:

a) Those within convenient walk (i.e. the Board policy on walking distance to the bus stop) of an intersection. These students could be picked up by buses along either road.

b) Those within 0.5 to 0.8 miles of an intersection. These could be picked up by a through bus or by a turnaround.

c) Those elsewhere on the road segment. These should be picked up by a bus travelling along that road.

With the necessary information prepared in this way, routing studies can begin.

Simple Route Systems

As in most manual trial and adjustment approaches, the results improve with the designer's experience. The following procedure should be useful:

1. Estimate the number of buses required: Divide the total number of students to be bused to the school by the average capacity of the existing fleet to determine the

number of buses required. This total can be reduced if large groups of students are located reasonably near to the school, thereby making multiple or dual trips feasible.

2. Examine overall student distribution and plan approximate system concept: By considering the relative locations of student concentrations and groupings and the positioning of the school within the attendance area, prepare a rough schematic of what appears to be a logical concept, bearing in mind the number of buses available.

3. Prepare trial route system: Next a first trial route configuration is made on the map, or on a tracing paper overlay. Generally routes should start near the perimeter of the attendance area or near to the bus storage locations if deadhead mileage is to be minimized. Also, a general attempt should be made to keep loadings on the various routes balanced. Using the average speed of buses, a rough estimate can be made of the maximum route length that can be operated within the Board's policy on pick-up and arrival times. In developing the trial scheme, avoid routes which are longer than this estimate.

4. Check trial design: The trial design should then be checked for total number of buses, maximum loadings on each bus and where along the route they occur, and timing of the first pick-up and arrival at school.

5. Revise route designs: Next the trial design is adjusted to
   - locate better starting points for the routes
   - straighten routes
   - reduce number of turnarounds

- balance loadings
- load buses as quickly as possible
- reduce overlaps and achieve better co-ordination between routes
- examine possibilities for double runs
- revise routes which are either too long or too short

6. Continue to adjust routes until further improvements cannot be found: Depending on the complexity of the system, several trials are normally required before the design is complete and optimized to the best of the designer's capability. At this point, the entire system is reviewed to check its efficiency and alternative concepts are examined to determine whether further improvements can be made.

More Complex Systems

When attendance areas overlap, or when there are a number of schools close together, the problem of designing routes becomes more complex and may involve routes serving many schools, transferring and multiple trips by several buses.

Firstly, the students for all schools to which routes could go must be located on the map, using a different symbol for each student or concentration of students according to the school attended. Again, the transparency system provides the designer with this type of working copy. Next, the students are grouped and counted as described earlier, but keeping the students to each school separated. The remainder of the procedure is the same, but the designer should constantly look for opportunities to serve more than one school on each route.

In complex route systems, a higher utilization of buses can be achieved than in simple systems, and the estimated number of buses should be factored accordingly. In very complex systems, particularly those in which the schools are small and contain only partial sets of grades, routes may have to be designed incorporating a major transfer point, preferably at a central school.

While the above procedures may be time-consuming, with experience they can produce economical and efficient route systems.

COMPUTER-ASSISTED APPROACHES

Some computer programs have been developed to deal with the school bus routing problem. However, experience to date with such programs has not been wholly successful.

Programs Developed

Five programs, two of which have been used on a trial basis by Ontario Boards, are worth noting:

1. OISE computerized routing system[1]: This system, prepared by the Ontario Institute for Studies in Education under National Research Council of Canada funding, was developed in association with officials of the Waterloo County Board of Education. The procedure for route design

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[1] *"A Computerized System for School Bus Routing", G.S. Tracz, M.S. Norman, Ontario Institute for Studies in Education, 1970.*

is based on the Clarke-Wright algorithm[2] and was tested on some routes in Waterloo County, although the detailed route designs were not published.

2. Mississippi program[3]: This computer program was developed at the University of Mississippi with the aid of a grant from the U.S. Office of Education. It was tried for a small rural attendance area in Wisconsin and was reported to have produced routes which "compared favourably with routes prepared manually, and in some instances ..... were better". The Program was available in FORTRAN IV.

3. IBM VSP[4]: This program is a standard vehicle scheduling package primarily developed to optimize routes for a fleet of vehicles delivering goods to customers from a central depot. An earlier version of this program, VSP, was tried in New Jersey[5], but results of this project are not available. However, published reports give no promise of greatly improved routes over those developed manually, although design time was reported to be reduced.

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[2] *"Scheduling of Vehicles from a Central Depot to a Number of Delivery Points", G. Clarke, J.W. Wright, Operations Research, V.12, 1964, pp 568-81.*

[3] *"Development of a FORTRAN Computer Program to Design School Bus Routes", T.A. Ross et al, University of Mississippi, Feb. 1969.*

[4] *IBM Vehicle Scheduling Program - Application Description Manual (GH20-0464).*

[5] *"State of New Jersey Conducts Pilot Program in Computer-Assisted School Bus Scheduling", School Bus Fleet, Aug./Sept. 1969, pp 17-19.*

4. IBM VSPX[6]: The Ministry of Education in Ontario is currently testing a version of IBM's VSP which they have modified and are testing with three Boards in the Province. Preliminary results are reported as promising, but no definite operating parameters and recommendations have been prepared.

5. IBM VSPX Modified[7]: The Ministry of Education in Ontario is curren[illegible]eveloping a system which interfaces with their student information system and incorporates a modified VSPX package with additional support programs designed to reduce the amount of man hours required for route construction. Immediate plans for 1973 include the design and implementation of bus routes at the Board level for at least two Boards using a computerized system.

Experience to Date

The programs listed above are still largely untried in that none has been used on a regular basis by any Board. It will be a long and gradual process at best before a computerized system and expertise in using it can be developed to the point that it can be employed by a wide number of school Boards[8].

Secondly, experience to date has shown that the use of the computer does not eliminate the need for some manual design, and there are some questions whether the approach is less costly than full manual approaches. The input data for a computer program must be coded from the same source that manual approaches can use directly - student locations on a map. Few schools conform to the ideal attendance areas for which most programs were developed. In particular, routes serving a large number of schools are difficult to handle in most computer aided approaches.

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[6] *IBM Vehicle Scheduling Program - Extended, General Information Manual (GH19-2000) and Program Description Manual (SH99-1203-0).*

[7] *The Ministry of Education, Education Data Processing Branch.*

[8] *"The Computer and Bus Route Scheduling", B.F. Webber, Report of the Conference on School Transportation, York University, July 1971.*

In conclusion, the largely heuristic approach to route design can be carried out manually and may be difficult to adapt to the rigid logic of a computer program. The more logical application of the computer is not in the design of the routes, but in the system for collecting, verifying, storing and maintaining the basic student location data and then presenting this on a map. An approach to this type of system is presented in Chapter III.

4. IMPLEMENTING NEW ROUTES

Once the routes have been designed, the Transportation Department should check all routes and inform all those immediately concerned with the new routes. In addition, initial operations of the new routes should be monitored and any necessary alterations made as quickly as possible.

CHECKING THE ROUTES

Except in areas where road conditions are well known or where the new routes are very similar to the previous year's, a member of the Transportation Department should drive over the new routes to double-check mileages, road conditions, bus stops and turnaround points. If bus timing is also to be checked by this method, then the routes should be driven using a bus, and stops should be long enough to simulate the time for students to load and unload.

New routes should then be checked with:

- board academic staff, particularly the supervisors, for the areas being re-routed to ensure that the routes adequately serve the schools' needs and that all students are being accounted for;
- principals or vice-principals of the schools concerned to get any suggestions they might have, to check that as far as could be ascertained, no students will be missed.
- board drivers and private operators to check the practicality of the new routes, their opinions on road conditions and to answer any concerns they might have.
- county engineers or road superintendents to check the general road conditions and particularly conditions during the winter or other adverse weather.
- Ontario Provincial Police or the local police department to check the routes for any dangerous driving conditions or hazards at bus stops.

These checks may uncover problem areas on some routes which should be rectified before informing those concerned of the final designs to be implemented in September.

INFORMING THOSE CONCERNED

To smooth the implementation of the routes, all those who are immediately concerned with the routes as well as those likely to receive enquiries or complaints should be notified of all route changes. This should include:

- Parents and students should be notified by a letter on the first day. A map showing the new routes should be included with the letter (Figure 4.1). If the new routes for some areas are designed before the end of the school term, the students should be notified at that time and any major changes in design can be communicated later to their parents.

  To simplify the identification of buses and routes the routes should be numbered and corresponding numbers should be attached to the bus so the students can tell which bus is travelling on which route.

  Another method of informing the parents and students is to place maps in local newspapers outlining all the new routes and including the procedures to be followed on the first day. This approach is also helpful in informing new families moving into the area of the routes and the need to contact the Board offices to ensure that their children will be allotted places on the bus. The Transportation Department may also provide each school with route maps which may be distributed to students who are registering.

- Operators and drivers should be informed about the new routes and the individual drivers should be familiarized with their own route. A general meeting of the area operators and their drivers should be held and each driver should be given his route map showing the bus stops and anticipated timing of the route as well as a list of students who board the bus at each stop.

Information re: School Bus Transportation

We are enclosing a map indicating the revised routing of school buses for your area. These routes result from careful consideration of both student locations and locations of specific grades and schools. We have attempted to maintain overall service levels which are at least equal to previous years, and in many cases service to students is substantially improved. These revisions are necessary to improve the efficiency of our transportation operation as attendance areas and student locations tend to vary from year to year and road conditions frequently undergo certain changes as well.

The enclosed map should be used by you in the following way:

1. Spot the location of your home on the map.
2. Locations of pick-up points along the routes in both rural and urban areas are approximately the same as last year. However, where a route has changed, the student is advised to walk to the nearest revised route as indicated on the map.

   Please Note: The driver of the bus has a list of all students expected to ride his bus. This has been done in an effort to avoid confusion where more than one bus passes a certain point on the road.
3. Each bus route on the map has a specific designation which may be either a letter and number or simply a number (i.e. L4 or 6). Corresponding numbers will appear in the windshield of the buses. The starting time of each bus is indicated at the beginning of each route in small print under the route designation number, so that you may gauge the approximate time your child will be picked up by the bus. We would suggest that students be prepared about fifteen minutes earlier than the time gauged for the first couple of days until a more accurate pick-up schedule has been determined.

Any questions you have concerning transportation for your child may be referred to the school principal, who will endeavour to assist you. In the meantime, we look forward to providing your child with convenient and safe bus transportation for the coming year.

Yours very truly,

Transportation Officer

Encl.

FIGURE 4.1

- Principals need to be fully informed on the routes serving their schools that are to be implemented. Requests for information and service enquiries are often directed to the school and records of these enquiries should be kept and passed on to the Transportation Department.
- Trustees. In case any complaints come to any of the Trustees from the areas concerned, each should be informed as to what is happening and be asked to forward any problems to the Transportation Department.

INITIAL OPERATIONS

The first week of operation of new routes is the most critical. This is the time when most of the complaints and enquiries are generally received, and the time when service surveys should be made and any necessary route alterations should be completed. Each school should have a secretary record all the enquiries and complaints during the week and pass them on to the Transportation Department for adjusting the routes where necessary.

Three types of enquiry can be expected by the Transportation Department:

- Lack of Service: The question to be resolved here is whether or not the student is eligible for service under the Board's policy, and if eligible, whether or not the route would need to be re-designed to provide the service.
- Bus Off Schedule: Some of the buses may arrive at the school either too early or too late, and may require some re-scheduling to correct the situation.

- Bus Overloaded: Here the questions are whether or not all students riding on the bus are in fact eligible for transportation, and if so, whether the route needs to be re-designed.

In addition to responding to enquiries, the Transportation Department should carry out a survey of service within the first few days of school (see Chapter III for survey procedure). From this, operations of all routes should be reviewed, and compared with the Department's original designs. Any routes having timing problems or which are over- or underloaded should be adjusted where necessary.

5. ROUTE PLANNING

To maintain the maximum in operational efficiency the Transportation Department must be concerned with not only the changes in routes from one year to the next, but also with the demands likely to be made on the system over the next two to five years in each area of the Board's jurisdiction.

THE NEED FOR PLANNING

While many of the factors affecting future route operations are outside of the control of the Transportation Department, there is a need to have an understanding of future requirements to aid decision-making and to maintain good service at reasonable cost. More specifically, planning is needed:

1. To maintain a high utilization of equipment. Plans must be made in order to make the most effective use of the bus fleet, particularly in areas of declining population. Population changes will have an effect on routing in the areas most affected and may require drastic changes in the routing concepts used: for example the shift from a normal to a feeder route concept in areas of declining student numbers. In Board-owned operations, decisions must be made on the purchase of new vehicles, the size and design of which will be affected by their use over the lifetime of the vehicle. In contracted operations, the Board should provide the private operators with information to help them purchase the type of new vehicles which can be most effectively used in the future. Finally, population changes may affect the storage locations of the buses, since they should be near the routes served. In turn, longer term considerations may affect decisions on the size and location of maintenance facilities.

2. To assess the long-term implications of changes in service policies. Population changes may have a great effect on the service policies and levels that a Board provides its students. For instance, in areas of declining population it may be no longer possible to pick up students within present walking distances, whereas in areas of increasing population, walking distances may be able to be shortened. Thus, before recommending any changes in present service policies, the Transportation Department must be able to forecast their impact, not just on the next year's operations and costs, but longer term.

3. To aid in predicting the future transportation budgets.

   Long range forecasting will aid the Transportation Department in determining the numbers and distances from school of students who will be requiring transportation, as well as the number of vehicles required to transport these students. These factors are the basic components for determining costs of the transportation system.

4. To assist in other planning activities of the Board. In connection with plans for building new schools or additions, phasing out schools or changing attendance area boundaries, the Transportation Department will be called upon to make an input to preparing plans and cost estimates. To provide a meaningful contribution the Department must be able to predict costs and other implications for the transportation system as a whole.

INFORMATION AND SOURCES

To plan effectively, the Transportation Department needs information on:

- Students to be bused, particularly in areas of changing student population. For secondary schools, it is a relatively easy task to forecast some of the basic school population trends from elementary school enrollments. Using these enrollment figures as a basis, other variables such as immigration, increased residential construction and/or trends to larger or smaller families may be added to arrive at a relatively close estimate of student population.

Forecasting elementary school enrollments becomes more complex, since there is no existing base within the school system to work from, and a number of variable factors must be used to arrive at estimates. Much of the information on population trends may already be in the hands of the school officials responsible for forecasting needs for school facilities and construction. Census data can indicate the number of pre-school children in the area, as well as showing any trends towards larger or smaller families. Municipal and county planners should also be able to show where and when new residential construction will be taking place, and the numbers of new houses and population involved.

- Buses Needed: Any forecast of bus requirements must be based on the population estimates coupled with the scheduled replacement of existing vehicles. As the population changes, it may be that routes may be made more efficient by the use of more appropriate size vehicles. The efficient use of facilities can best be done by careful projection of population and the equipment needed to service that population.
- Road Changes: In order to design routes with a maximum of efficiency, economy and safety in mind, the Transportation Department needs to be kept informed of all road construction and improvements. In forecasting route designs it is helpful to know what roads will be improved or constructed within the next two to five years. Much of this information can be obtained from either the Ministry of Transportation and Communications, or local road superintendents.

- School Changes: Schools may be phased out in areas of declining population or may be built in rapidly growing areas, and these changes will have an influence on the transportation system. In addition, there may be plans to change school boundaries, and the advance knowledge of this eases the preparations needed to adapt the routing schedules. This information should be available from other Board departments.
- Costs: To provide budget forecasts, the Transportation Department needs to have information on future student populations and overall plans for schools and attendance area changes. With this, numbers, lengths and capacities of routes can be determined. To prepare budget estimates, cost trends of the various fixed and variable cost items need to be established based on past records and any foreseeable changes in circumstances - such as increases in the purchase price of vehicles caused by extra safety equipment, unionization of drivers, changes in the size of the Transportation Department staff, and so on.

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To conclude this chapter, it should be emphasized that routing is probably the single most important activity of the Transportation Department. Efficiency in route design is the principal determinant of the quality of service provided to the students and the magnitude of the Board's transportation budget. Thus, every effort should be made to improve continually, the approaches used to the design and planning of routes.

V. CONTRACTING WITH OPERATORS

Contracting with bus operators is one aspect of a Board's responsibility which requires a great deal of attention. Route operators must be chosen in such a way as to promote an efficient and economical system without sacrificing any of the standards of safety and service. This chapter will discuss the two main approaches to contracting regular routes, negotiating and tendering, together with the contract terms which should apply and a sample contract form. Finally, approaches to contracting for special education, excursions and public transit service are presented.

When reviewing negotiation and tendering, it should be pointed out that one method is not exclusive of the other. Some Boards may want to tender a certain percentage of their routes each year and negotiate the remainder. This can be done on an alternating basis so that in a four or five year period all the routes have been tendered at least once.

1. NEGOTIATED CONTRACTS

A Board may choose to negotiate contracts for a number of reasons:

1. The Board may want as little disruption of service as possible and simply negotiates with the operators who serviced the routes in prior years.
2. The Board may want to retain the same operators because they are familiar with the roads and families in their areas.
3. There may be a possibility that if the routes are tendered one operator could obtain a monopoly. By negotiating the contracts, the Board can maintain as many operators as it desires.

In negotiating, Boards are often faced with an historical problem whereby the prices paid for routes may have been inherited from the small local Boards which existed before amalgamation. As a result, prices which are paid for routes with essentially the same characteristics can vary considerably within a Board's jurisdiction. In this case the Board is faced with the problem of rationalizing the prices paid to different operators through a process of negotiation.

However, regardless of any historical precedents in the area, the main objective in negotiating contracts is to ensure that the final contract price is competitive and as economical as a tendered contract. In negotiating a contract, a Board should not use the basic per diem school bus approval amounts provided by the Ministry of Education, as they are set at a level that includes the administ ation expenses incurred by a school Board.

NEED FOR A FORMULA

The person negotiating the contracts needs to understand the actual costs of operation school buses in his area before he negotiates with the operators. For this purpose he needs to develop a formula which permits the estimation of actual operating costs for routes of various lengths and using various bus sizes. By using such a formula it should be possible to establish a uniform system which will justify any variations in pricing between different operators and for different routes.

A costing formula can be used in two ways. First, the Board can seek to get the agreement of the individual operators (or the operators' association if one exists) to the formula as a basis for calculating the contract price of all routes. An alternative approach is for the Board's negotiator to use the formula without disclosing it to the operators. In this way the formula becomes a piece of information which the negotiators can use to determine whether or not an operator is asking too high a price.

In developing such a formula the Board's objectives should be:

- to pay all the operators a fair price for their routes
- to lower total contract costs
- to provide the Boards with a means to control year-to-year increases.

In addition, when determining the contract terms in relation to the formula, the Board should attempt to eliminate some of the risks encountered by operators with one-year contracts.

DEVELOPING A FORMULA

From a consideration of the economics of school bus operations, there are two components of cost which should be taken into account in developing a reasonable contract price:

1. the fixed costs which remain essentially the same over the normal school year;
2. those costs which are variable with the use of the vehicle, that is, the number of miles it travels.

In addition to these costs, the total contract price will have to include an allowance covering the overhead of the operator as well as permitting him a reasonable return on his investment.

Fixed Costs

The major proportion of school bus operating costs can be considered as being fixed for the purpose of establishing a fair contract price for any given route. Depreciation, interest, insurance, licence fees, etc., are fixed and cannot be avoided. Drivers' wages may also be considered fixed, for the purpose of developing a formula, since they will be incurred throughout the length of the contract, although they may not remain constant if the contract is for a period of more than one year. Depending on the nature of wage contracts with the drivers, additional allowance may be necessary for long routes or exceptional circumstances.

- Depreciation: This cost item is a function of the purchase price of the bus and its assumed life. Purchase costs will vary with the size of bus, the options required and the applicable taxes. When calculating the fixed depreciation cost, it should be remembered that the operator will also normally be trading in an old bus unless he is not in the business or is expanding the size of his fleet. The number of years of reliable service for a school bus will depend on a variety of factors such as road conditions, amount of use, method of driving and the amount of maintenance. However, it is generally accepted that a bus has an average life span of six or seven years, depending on the severity of service*. Many Boards restrict maximum vehicle age and/or mileage as a matter of policy. The annual depreciation may then be calculated by dividing the net purchase price by the vehicle life in years.

- Interest: If the operator borrows money to purchase a new bus he will have to pay interest. If he pays cash then he is foregoing the interest the net purchase price could be earning for him if it were invested elsewhere. The interest he will have to pay when borrowing is likely to be the higher of the two, and it will vary according to the risk involved being less for the operator with a proven repayment record and probably less for the larger operator than for the smaller one. The interest rates may also vary according to the area of the Province in which the operator lives and, of course, on overall economic conditions. Current rates for such

* - *See Appendix A.*

purchases can be determined from the usual sources for such loans, such as local banks, trust companies or other lenders.

- Licence: The licence fees charged for a private operator are fixed by provincial regulation and vary only according to the weight of the vehicle.
- Insurance: The Ministry of Transportation and Communications requires all school bus operators to carry amounts of insurance which vary with the number of passengers carried. This cost may vary according to the area of the province and to the size of the operator's fleet. The larger operators are likely to obtain fleet discounts.
- Drivers Wages: Drivers' wages are included as a component of the fixed costs to the operator. The wages are normally constant over a given school year, but can vary from year to year depending on the operator's negotiations with his drivers. The general level of drivers' wages will vary from region to region across the Province. To the actual wages paid must be added the necessary fringe benefits which include Canada Pension Plan contributions, Workmen's Compensation and vacation pay. The annual wage paid to drivers will depend on the number of school days and may therefore differ for drivers serving elementary and secondary routes.
- Overhead and Profit: The operator must be compensated for his overall expenses and, of course, must receive a reasonable profit for his efforts. It is often difficult

to estimate what is reasonable for these items. Generally speaking, operators' overhead expenses can be assumed to be around 5% of his total fixed costs, although this may vary with the scale of operation. Available statistics on private bus operations indicate that 7% to 10% profit levels are generally being achieved. However, these figures should be reviewed to determine what is reasonable for the area where the formula is to be applied.

- Other items: When developing a formula, a number of other cost items may be raised as pertinent including the cost of garages, the cost of standby buses and variations with types of road used. Unless circumstances warrant, these items would not normally be applicable. No allowance should be made for the cost of any garage facilities, since not all operators may have special garages and those that do have done so in order to achieve greater efficiency in the maintenance and storage of their buses, thereby lowering their operating costs. While provision for a standby bus could be considered, it is normally concluded that, considering the frequency of breakdowns, the operators can use equipment which they have already paid for as a back-up for emergency use. Finally, there is generally no need to provide an allowance for the considerable variation in the condition of roads the buses use. If a bus is using paved roads exclusively, the wear and tear due to road salt and higher speeds will almost parallel the amount of deterioration caused by the rougher unpaved roads. However, some allowances may be made for particularly rough roads.

Variable Costs

For the purpose of developing a formula for contracting the only variable costs are those which change according to the mileage travelled by the vehicle, such as gasoline, oil, grease, tires, maintenance, repairs and washing. An allowance for overhead and profit must also be provided in addition to these costs.

At the outset it was stated that the bulk of the costs involved in operating a route are accounted for by the fixed costs. Thus, the same degree of accuracy is not necessary in the case of developing the variable cost portion of the formula.

Gasoline and oil costs can be estimated from current prices in the area together with assumptions on the average miles per gallon and frequency of oil changes. Maintenance costs can be obtained from other similar companies, such as trucking or public transit, or from the Board's own bus operations, or those of a nearby Board. Variable costs are unlikely to vary sufficiently for buses of different seating capacities, at least within the size ranges normally used for regular routes.

Annual Increases

Should the Board wish to enter into two or three year contracts with its operators, then provision must be made for normal cost increases which the operators would have to absorb. When considering what allowance should be provided it is useful to consider which are the major cost items and which of these are likely to increase. The two main fixed cost components are the depreciation allowance (a function of the purchase price) and drivers' wages. Increases in bus prices can be estimated by talking with the manufacturers and reviewing any changes in safety or other regulations which might affect the price. Probable increases in drivers' wages will have to be estimated on the basis of past trends in the area. Similarly variable cost increases should be estimated for the contract period.

Annual increases can then be expressed either as a percentage per year of total contract price or as a given increase in the fixed and in the variable cost allowance. In determining the annual increase, it should be kept in mind that approach to determining the formula described above compensates the operator for *current* vehicle purchase prices, whereas he may employ older buses for which his costs are less. This may be used as a rationale for allowing a lower annual increase.

SAMPLE FORMULA

Following is an example of how a formula might be developed for say, a 66-passenger bus assuming a vehicle life of seven years:

Fixed Costs

Depreciation:		
Purchase price (66 passenger bus with required options:	$12,000	
Less trade-in:	2,100	
	$ 9,900	
Plus 5% Sales Tax:	495	
Net Investment	$10,395	
The annual depreciation for seven-year vehicle life would be $10,395/7, or		$ 1,485 per year
Interest:		
If 10% is taken as the interest rate: Average debt over the life of the bus is $10,395/2 or $5,198. Interest at 10%:		$ 520
Licence: for 66-passenger bus:		$ 165
Insurance: for 66-passenger bus:		$ 180
Drivers' Wages:		
$9.00 per day for 196 days	$1,764	
Fringe Benefits	$ 115	
	$1,879	$ 1,879
Sub-Total		$ 4,129
Overhead (5%):		$ 207
Profit (10%):		$ 413
Total Fixed Costs		$ 4,749 per year

Variable Costs

Gas: 45¢/gal. @ 7.5 mi./gal.	6¢ per mile
Oil and Grease: $100/8,500 mi.	1¢
Washing: $200/8,500 miles	2¢
Maintenance and Repairs: $450/8,500 miles:	5¢
	14¢
Overhead and Profit @ 15%:	3¢
Variable cost per mile:	17¢ per mile

Daily Rates and Annual Increases

Daily fixed costs: elementary $4,749/194 = $24.48
secondary $4,749/186 = $25.53

Daily variable costs for 50 mile route: 50 x 17¢ = $ 8.50

Daily rates: elementary $24.48 + $8.50 = $32.98
secondary $25.53 + $8.50 = $34.03

Annual Increase: Fixed Costs 4% p.a.
Variable Costs 1¢ per mile.

2. TENDERED CONTRACTS

A Board will usually tender a route or an area of routes for one of three reasons:

1. When the negotiations with the operator have failed to come up with a price that is satisfactory to both the Board and the operator.
2. When there is a good competitive situation in the area with several operators who are anxious to obtain the contracts.
3. When the Board wants to adopt a contracting approach which is open to public scrutiny.

While tendering is a somewhat simpler contracting procedure compared to negotiation, there are several different approaches which can be used and each requires a somewhat different tendering procedure.

ALTERNATIVE APPROACHES

There are two approaches which should be considered

1. Tendering for prices on one or more routes
2. Tendering for a formula

Of these, the first is the more common, although there are problems associated with it. In this approach, the Transportation Department designs the routes ahead of time, prepares route maps showing their location and supplies these to the prospective bidders. Bids are then received on a per route or a block of routes basis. Its disadvantages are that it requires that detailed route design be completed and maps prepared before tendering can be done. Also, since fixed prices are bid for specific routes, difficulties are created if circumstances require that the routes be changed during the contract period. For this reason, it is often difficult to employ this approach for contracts of more than one year without having to enter into negotiations with the operator at the end of the first year.

The second approach overcomes many of these difficulties. Under this approach, which is a combination of the tendering and the formula approaches, the operators are invited to submit their formulae for contracting. The formula would be the fixed cost plus variable cost formula as outlined earlier and the operator or operators with the lowest formulae would be awarded the routes. Thus, in this approach the routes need not be designed, but only their general character need be described to prospective bidders. The formula provides the basis on which alterations to the routes will be paid for and the bidders can also be asked to submit their basis for any annual increase in the formula.

HOW TO TENDER

Tendering should normally be done in such a way as to prevent a single operator from obtaining all the routes. As a general rule, unless the Board's system is a small one it is desirable to have several operators to provide competition and insurance should one operator fail to provide the required service or go out of business. To avoid monopolistic situations, it is usually wise to restrict the number of routes which can be served by one operator.

The Transportation Department should also try to ensure that there is no collusion amongst the bidders and should retain the option of refusing bids or to revert to negotiation if there is any evidence of this practice. With either of the two tendering approaches the Board should consider including in the tender call an amount or a formula which it believes to be a reasonable price for the routes or areas tendered. Bids considerably higher than this price could be rejected as unreasonable.

The formal tender call should be prepared by the Board's solicitors, at least in the first instance. It should contain three items of information:

- a copy of the Board's service and safety policies (see Chapter II).
- a statement of the terms of the contract to be signed (see next section)
- a description of the routes or the transportation requirements of the areas being tendered.

When tendering specific routes, a description of each must be provided detailing the roads travelled, timing, mileage and number of students to be transported. When tendering areas on a formula basis, the bidder should be provided with information on the schools to be serviced, total students to be bused, approximate number and size of buses needed and expected lengths of the routes. This information, together with the operator's knowledge of the roads in the area, should be sufficient for him to provide a formula-type bid.

Finally, the tenderer should be required to submit a bid bond, say in the amount of 10% of the contract price, with his bid.

3. CONTRACT TERMS

When developing the terms or conditions of the Board's contracts with private operators, there are a number of items to be considered before the actual contract document can be prepared. While practices will vary somewhat from Board to Board, it is useful to outline a basic approach for such a document.

ITEMS TO BE INCLUDED

As in any contract, an agreement between a Board and an operator will include the usual particulars regarding the amount of the contract, commencement and termination dates, and other normal terms. There are, however, several items to which the Board may wish to give special consideration before deciding on the final terms to be contained in all contracts. These items include questions of how long the contracts should last, how the operator is to be paid, what insurance and bonding he is to have, and what policies and control procedures he must adhere to.

Length of Contract

With the approval of the Ontario Municipal Board, a Board may let contracts of more than one year's duration and many Boards follow this practice. Approval can be secured by submitting a certified copy of the agreement with the operator to the O.M.B., as well as a certified copy of the School Board's resolution approving the proposed agreement. Any agreement submitted must show the estimated number of students to be transported as well as the estimated cost of the contract for each year proposed.

The awarding of multi-year contracts offers two important and inter-related benefits. First, it gives the operator a guarantee of continuing business and allows him to replace his equipment at the most appropriate time with the assurance that he will be able to recover the capital costs. Secondly, from the Board's standpoint, it offers the Board a stable year-to-year contract and reduces the amount of time that has to be spent on the renegotiation or tendering.

Terms of Payment

The Board must decide on how often the operator is to be paid, what he is to be paid when school is cancelled, how route mileage is to be measured and, finally, how he is to be paid when adjustments are made to the routes.

- Frequency of Payment. Contracts with operators are generally expressed in terms of per diem costs. Usually the operator is paid on a monthly basis according to the number of days of service provided.
- School Cancellation. In the event school is cancelled and adequate notice is given to the operator, it is only fair that he be reimbursed for his actual expenses. This amount is determined from the fixed costs, since this is the amount of expense an operator incurs if the buses are not travelling the route. The variable (mile-

age) costs are not incurred and therefore should not be paid. In the event the routes were tendered for lowest price, there should be a clause in the agreement that would pay the operator a percentage of the per diem contracted price.

- Calculation of Route Mileage. The Ministry of Education defines route mileage as the sum of the distance travelled from the first pick-up point to the last drop-off point, plus the shortest distance back to the first pick-up point. To determine the daily mileage this distance would have to be doubled. This corresponds to the actual mileage that would be travelled by an operator who stores his bus near the first pick-up point.
- Route Adjustments. The contract with the operator should contain a provision for adjusting routes with a basis for revision in the contract price if the changes are substantial. If a new route is added in an operator's area, the terms should permit the Board to negotiate with other operators as well. Finally, the operator should not be permitted to make alterations to routes without prior consultation with and approval from the Transportation Department.

Insurance and Bonding

The contract should specify the amounts of insurance the operator should carry for both regular routes and excursions. A copy of the operator's policy should be filed with the Transportation Department and the Board should be notified by the insurer of any changes or cancellation. The Board should also consider the desireability of having all operators deposit performance bonds for a proportion of the contract price, the premiums for which the Board would pay.

Board Policies and Control Procedures

Copies of all Board policies should be annexed to the agreement and form part of the agreement. This informs the operator of all the safety and service policies the Board wishes to be followed.

Also, from time to time the Transportation Department may wish to obtain certain information from the operator for purposes of checking the service being provided and the safety of his operation (see Chapter III). As part of his contract he should agree to provide the information as required. This may include surveys of numbers of students and timing on each route, records on the vehicles being used, on the drivers and on any changes in either driver or vehicle which the operator proposes during the year.

Another provision which should be included in every contract concerns the right of the Board to order periodic safety checks with an independent mechanic. Such a provision would permit the Board to call in an independent mechanic at any time to make a mechanical fitness report on any vehicle the operator is using. If the vehicle is found to be unfit, the operator should be responsible for the cost of the inspection. However, if the vehicle is found to be in satisfactory condition the Board would pay the inspection cost. Such a provision helps to ensure that the operator keeps his vehicles in top mechanical condition.

SAMPLE CONTRACT

The Ministry of Education has prepared a sample contract which is reproduced on the following pages.

MINISTRY OF EDUCATION, ONTARIO

Agreement ____________ 19____ 19____
(number) (school year)

AGREEMENT FOR TRANSPORTATION

MEMORANDUM OF AGREEMENT made this ______________________________

day of ______________, One Thousand Nine Hundred and ______________________

between: ______________ ______________ ______________
(Operator's Name) (Address) (Telephone)

hereinafter called the "Operator"

– and –

____
(Official Name of Board(s))

______________________________________ hereinafter called the "Board",

WITNESSETH THAT in consideration of the mutual covenants, agreements, and undertakings herein contained, the Operator on behalf of himself, his heirs, executors, administrators, successors and assigns, and the Board on behalf of itself and its successors mutually covenant and agree as follows:

1. This Agreement shall commence ______________ and shall terminate ______________
(day, month, year) (day, month, year)
unless terminated prior thereto under paragraph 13.

2. In consideration of the transportation services provided, the Board shall pay to the Operator on or before ______________________________ the sum of ______________________________ dollars ($__________) calculated at the rate of $__________

   ☐ 1. per day for each day on which transportation is provided, or

   ☐ 2. per month for each month during which transportation is provided, or

   ☐ 3. ______________________ (Specify)
   ____
   ____

3. The Operator shall, during the period covered by this Agreement, transport the pupils designated by the Board on the terms contained in a schedule forming part of this Agreement and attached hereto, which schedule shall specify the route or routes, the mileage per route, the frequency of trips, the school or schools to which the pupils are ultimately being transported, and the estimated number of pupils and may specify the pick-up and departure times, the points of pick-up and discharge and any other matters upon which the Board and the Operator may agree and which are not in conflict with other paragraphs of this Agreement.

4. For the purposes of this Agreement, the Operator shall be deemed in all respects to be an independent contractor.

5. The Operator shall be deemed to be in the business of carrying passengers for compensation, notwithstanding payment or lack of payment under the terms of this Agreement.

6. The Operator shall use a motor vehicle properly licensed as required by The Public Vehicles Act and the Regulations thereunder and all other Acts governing public transportation.

7. The Operator shall not assign this Agreement without the consent of the Board.

8. The Operator shall maintain and provide evidence of property and public liability insurance in amounts not less than those required by The Public Vehicles Act and the Regulations thereunder.

9. The Operator, while the vehicle is operated on any private road or other place, shall assume the same liability as is imposed upon him by The Highway Traffic Act while the vehicle is operated on a highway.

Page 1 - Continue over

Page 2

10. For the consideration aforesaid, the Operator, for himself, his heirs, executors, administrators, successors and assigns shall indemnify and hold harmless the Board, its successors and assigns, from any and all manner of damage or injury, risk, claims, demands, actions, causes of action, damages and costs arising out of or incurred by reason of the services performed by the Operator under this Agreement and the schedule.

11. In the case of an accident causing personal injury to a pupil, the Operator shall not be relieved from liability by reason of the vehicle being operated off the route or routes specified in the schedule to this Agreement.

12. Paragraph 2 and the schedule may be amended by mutual consent as agreed in writing by the Operator and the Board.

13. This Agreement may be terminated,
    (a) by mutual consent as agreed in writing by the Operator and the Board;
    (b) by the Board,
        (i) if the Operator fails to fulfil any of the terms of the Agreement or the schedule or either of them,
        (ii) if the Operator does not submit to the Board annually proof that each driver has had a tuberculin test and, where required, a chest x-ray examination within the past two years; or
        (iii) if the Operator fails to operate the vehicle in accordance with the requirements of The Public Vehicles Act and the Regulations thereunder, of all other Acts covering public transportation and Regulations thereunder and, of any existing regulations of the Board governing the transportation of pupils.

IN WITNESS WHEREOF the OPERATOR has set his hand and seal and the BOARD(S) has (have) affixed its (their) corporate seal(s), attested by the signature of its (their) Chairman (Chairmen) and its (their) Chief Executive Officer(s).

SIGNED, SEALED AND DELIVERED in the presence of

Witness ______________________

Date ______________________

____
Signature of Operator

____
Official Name of School Board(s)

____
Signature(s) of Chairman (Chairmen) of School Board(s)

SEAL

Date ______________________

____
Signature(s) of Chief Executive Officer(s)

Form MF314 (7/72)

Alternative Clauses

There are a number of alternative clauses the Board may wish to substitute as well as additional clauses that are not covered in the Ministry contract.

- Alternative to Clause #7

  The Operator shall not assign this Agreement or subcontract any services to be rendered under this Agreement without the consent of the Board.

- Alternative to Clause #8

  The Operator shall maintain and provide evidence of the following insurance coverage to apply to all units owned, operated and used by the Operator in carrying out the undertakings of this Agreement:

  (a) Road Hazard Third Party Liability:
  Legal liability under this Section for bodily injury to or the death of any person or damage to property of others, the limit of legal liability for any one accident shall carry a limit of One Million Dollars ($1,000,000) exclusive of interest and costs.

  (b) Passenger Hazard Third Party Liability:
  For loss or damage resulting from bodily injury or the death of one person from any one accident, the limit of liability shall be One Hundred Thousand Dollars ($100,000) exclusive of interest and costs.

  For the loss or damage resulting from bodily injury to, or the death of two or more persons, this shall be subject to such limit as stated heretofore for each person, but not exceeding One Million Dollars ($1,000,000) in any one accident, exclusive of interest and costs.

(c) For loss resulting from damage to property of others from any one accident, the limit of liability shall be Fifty Thousand Dollars ($50,000) exclusive of interest and costs).

(d) It is also understood and agreed by the Operator and the Operator's insurers that the limits of liability also apply to such special operations such as Charter and Field Trips, as well as extra-curricular activities.

- Alternative to Clause #10

(a) The Operator, for himself, his heirs, executors, administrators, successors and assigns shall indemnify and hold harmless the Board, its successors and assigns from any and all manner of damage or injury, risk, claims, demands, actions, causes of action, damages and costs arising out of or incurred by reason of the services performed by the Operator under the terms of this Agreement, and the Schedule, and the Operator's insurance policy shall be specifically endorsed to include this undertaking.

(b) It is further understood and agreed that a copy of the Operator's insurance policy will be filed with the Board's office and such policy shall be specifically endorsed with the following undertaking: "The company hereby agrees to notify the Board's Office of any changes as they are obliged to submit to the named insured. In case of cancellation, the Board will be given fifteen (15) days' notice".

Additional Clauses

In addition to the above changes in the Ministry of Education's standard contract form, the Board may wish to add the following clauses:

- Board Policies

Attached to this contract is a copy of Board Policy regulating Transportation Services. Said Board Policy shall form a component part of the Contract and both parties are bound thereby; and a copy of its contracted form to be executed by the Board and the successful tenderer and upon submitting a tender it will be presumed conclusively that the person tendering has acquainted himself with these documents and is prepared to comply with same.

(a) All routes are subject to adjustment in terms of roads travelled and total mileage. Until there is a variable of one (1) mile in gain or loss in any one route, calculated one way, there shall be no adjustment in price. This shall not apply to detours. When an adjustment is made, it will be on the basis of cents per mile.

(b) When any Bus Route Service is temporarily cancelled with proper notification, the Operator shall be paid % of the regular daily cost of the service.

(c) The Board reserves the right to initiate changes within an area and may substitute an alternate route for an existing route, subject to terms of Item (a) above.

(d) When an additional route(s) is required within an area, the Board shall negotiate with the contractor who provides service within the area, but, failing to negotiate successfully, may award a contract to another contractor, or operate a Board-owned bus to provide said service.

(e) The Operator agrees that once a route is established, no adjustment shall be made to the route without prior approval of the Transportation Officer.

(f) A list of buses to be used in providing service, stating make, model number and year of manufacture, shall be filed with the Board by the Operator prior to September 1st of each year of the Agreement. The Operator agrees not to employ these buses in the service of any other Board of Education without the written permission of the Transportation Department.

(g) If buses are changed on routes, the Transportation Officer must be notified at least 48 hours in advance with the make, year and P.V. licence of the replacement bus. Operators are required to list their spare vehicle or vehicles when submitting the bus information sheets to the Transportation Officer each year.

(h) All school buses shall be painted yellow and will carry a distinctive identification number, which will be assigned by the Board's Transportation Department.

- Service and Safety Procedures.

(a) The Operator agrees to give full co-operation to the Board in any survey of service or safety the Board deems necessary.

(b) The Operator shall not carry passengers other than those students under the Board's control without the express permission of the Board.

(c) The Operator shall not operate any vehicle for transportation of students which he knows, or ought to know, is unsafe, or which does not qualify for a Ministry of Transportation and Communications mechanical fitness certificate, and any contravention of this paragraph by the Operator shall entitle the Board to consider cancellation of the contract with the Operator without notice.

(d) The Board reserves the right to call in an independent mechanic at any time to make a mechanical fitness report on any vehicle being used on routes under contract to this Board. If the vehicle is found to violate Paragraph (c) the Operator will be responsible for the cost of the inspection; if the vehicle is satisfactory, the Board will pay the cost.

(e) Photocopies of the mechanical fitness certificates of the Ministry of Transportation and Communications, stamped by the Ministry within two weeks of the filing date, must be filed with the Transportation Department by September 30 and January 31 of each year for each vehicle used by the Operator under this contract.

(f) Recommendations as to the location of the bus stops with regard to safety may be made by the Ontario Provincial Police or Municipal Police Force, and such Officers shall be requested to make recommendations concerning any dispute or question which arises with regard to the safety of the children at any bus stop whether existing or proposed.

4. SPECIAL EDUCATION, PUBLIC TRANSIT AND EXCURSIONS

Finally, the Board may require special contracting procedures for other than regular route service. Many of the approaches and contract terms discussed earlier apply equally well to special education, transit and excursion contracting. The following discussion will be concerned mainly with the variations which may be needed.

SPECIAL EDUCATION

Contracting for transportation of special education students, such as the physically handicapped or trainable retarded, differs from normal contracting in three main ways:

1. Service levels are higher. Generally they require a much higher level of service, often including door-to-door transportation for some students and special care and discipline on the bus.
2. Different vehicles are normally used. Greater use is made of the smaller buses and passenger vans and even station wagons and taxis are utilized because of the special difficulties of these students.
3. The routes have different characteristics and may change more often. Depending on the Board's policies on who is eligible for special education transportation, the routes may be simply door to school for those receiving the highest level of service. In some instances, the students

may be spread over large areas requiring long routes and different time schedules, whereas in other cases they may be concentrated in urban areas. Because there is often much movement into and out of special education programs, the routes must be changed frequently.

Approach to Contracting

Because of the higher level of service and the smaller vehicles, the price paid for special education routes can be expected to be somewhat higher than for regular service. Also, unlike the regular routes, which should be designed by the Transportation Department, the frequent changes in these special routes may create too great a load on the Department's staff and facilities. As a result in some instances it may be desireable to switch responsibility for route design to the operator and alter the contract terms accordingly.

The contracting method will vary depending on who designs the routes.

- Board Designed Routes: If the Board designs the routes for special education, or if all routes are direct from home to school, contracting may be accomplished by either a tendered or negotiated formula. As discussed more fully in previous sections, under both of these methods a formula is involved in the determination of the contract price. The formula for smaller buses and vans would contain the same elements as a formula for a regular route. In the case of taxis the formula would have to be altered to eliminate all the fixed costs items except wages, since it is assumed the regular business of the taxis would cover the fixed costs.

- Operator Designed Routes: If the operator designs the routes, the contracting procedures would be accomplished by either tendering or negotiating on a price per pupil basis. By using a per pupil price, the Board is assured that the operator will design the route as efficiently as possible.

Contract Terms

The terms of the contract will be much the same as for regular routes with the exception that:

- service and safety policies will be different
- payment terms may differ
- route design responsibilities may be assigned to the operator
- control procedures may not be the same.

These adjustments can be easily incorporated as modifications to the standard contract discussed earlier.

PUBLIC TRANSIT

If it is the Board's policy to transport students in areas where public transit is available, the Transportation Department should compare the cost of public transit to the cost of providing exclusive transportation and use the public service wherever possible.

There are two methods by which the Board can determine the number of students using public transit for the purpose of calculating payment to the transit agency:

- Tickets: The principal, after determining who is eligible for the service, may distribute bus tickets which have been purchased by the Transportation Department. Usually these tickets may be obtained at some discount and the students use the public buses in the same manner as any other passenger.
- Passes: Under this procedure a pass is issued to all students who are deemed eligible for the service and a list is compiled of these students. Each month the principal checks this list with the attendance list and submits a report to the Transportation Department who in turn authorize a cheque to the transit authority based on the total number of trips the students have made.

EXCURSIONS

Usually the Transportation Department does not arrange the actual excursions, but does the contracting with the operators to establish a uniform price system, as well as assigning schools to the operators on a pro rata basis according to the percentage of regular routes they operate. When a school requires a bus for excursions, the principal contacts the appropriate operator and makes the arrangements. The contracting should be done at the same time as the contracting for regular routes.

Approaches to Contracting

- Board Vehicles: If the Board operates its own vehicles consideration must first be given to using them for excursions. They should be used only if they are available and cost less to operate than the price charged by the private operator. Naturally Board-owned vehicles should not be used unless they are in the vicinity of the school needing the excursions. The Transportation Department should make a comparison of the cost of operating the Board vehicles for excursions versus the price charged by private operators.

- Private Operators: Contracting with private operators for excursions is again a basic question of negotiating or tendering. Many Boards presently use either a flat rate or a mileage charge plus an hourly waiting charge. Both these methods tend not to reflect the true cost of operating the vehicle. To obtain the true picture of the costs involved, the Transportation Department should compare present excursion prices with estimates of actual cost to the operator to provide the service, that is, an excursion formula should be developed.

  There are two ways of using such a formula: negotiating or tendering to the formula. The formula is basically the same as the one used for regular routes. However, if the operator is already using his buses for regular route service, then most of the fixed costs have already been paid for by the Board on the regular routes. In this case the formula for excursions would consist of wages for the driver plus the variable costs and overhead and profit. The formula would be used as the basis for negotiation or the operators would be invited to submit their formula in a tender. The question of whether to negotiate or tender is resolved in the same way as for regular routes.

Terms of the Contract.

Once the formula has been accepted, it is usually expressed in terms of an hourly rate (wages) and mileage (variable cost plus profit) in the contract. All the operators who want to be involved in excursions can be assigned schools according to the number of regular routes they operate. In this way, no one operator gets more than his fair share and his contract with the Board would reflect the schools he is to serve. The contract for excursions, if it is not part of the regular contract, should include the service and safety policies of the Board and the operators should be bound by those policies.

VI. BOARD-OWNED OPERATIONS

The prevailing method of providing school transportation in Ontario is through contracting, which accounts for about 90% of the routes. Nevertheless a number of Boards own and operate their own buses. Thus, while this Handbook is primarily oriented towards managing contract operations, it would be incomplete without some consideration of Board-owned operations.

Accordingly, this Chapter presents an approach to evaluating Board-owned operations in relation to those of private contractors. In addition, approaches to managing those aspects of school busing not covered in other sections of the Handbook are presented, such as purchasing of vehicles, equipment and supplies, busing operations and maintenance and repairs.

1. EVALUATION OF BOARD-OWNED OPERATIONS

A Board with its own busing operations must continually evaluate its operations with those of private contractors to help decide whether to increase, decrease or maintain its present fleet size. Alternatively, those Boards without their own operations must decide whether or not they should begin to operate their own fleets and decrease their contracted operations. Each type of Board will use different approaches to this problem, but the cost analyses will be similar.

Evaluation should consider not only the relative costs of the two types of operation but also the levels of service and safety they provide. To make a fair comparison, every effort should be made to apply the same criteria to both. Approaches for evaluating service and safety have already been presented in Chapter III. Therefore, the main concern here is with how to calculate and compare costs. Approaches will differ somewhat depending on whether the Board already has its own system or not.

BOARDS WITH BUSES

This type of Board already has the data with which to compare its operating cost with its private operators'. Basically, the approach is to calculate the fixed and variable costs of the Board-owned operations in the same way as was used in establishing the guideline formula for the operators (see Chapter V).

The analysis should include the same items as discussed in developing the contracting formula, without, of course, any allowance for profit. Thus, under fixed costs depreciation and interest should be charged (even though the buses are paid for out of current funds) and the overhead should take into consideration all the administrative staff salaries and benefits which can be proportioned to the Board's own route operations. Other administrative overhead items would include allowances for office space, telephones, furniture, etc. Drivers'wages would be major items and licence fees and insurance premiums should also be determined. The variable cost portion of the formula should include the same items that were considered for the private operator, less the profit margin.

Once the cost formula for the Board has been developed it should then be compared with the formula of the operators for routes of typical length. Such a comparison would normally be expected to favour the private operators since while a Board may pay lower insurance and licence rates, and does not require a profit, it may pay higher wages to its drivers and have a high administrative overhead - both major cost items. Its fleet is usually smaller than those of some of the private operators so that it may not be able to realize the same economies of scale in purchasing new buses, gas and oil, or in maintaining its buses as some of the larger operators. For example, the Board may have no fixed maintenance facility.

BOARDS WITHOUT BUSES

A Board considering the purchase of buses to start its own operations will have to prepare a similar type of analysis, but using different sources of data. Firstly, a comparison should be made of the Board's contracting formula with the costs of any nearby Boards owning buses, to determine whether there appears to be any cost advantage to a Board operation. If so, then further analyses are warranted.

Next, the Board should prepare estimates for all fixed and variable cost items, using costs of the other Boards and local operators' costs where available. Adjustments will have to be made in these costs from other sources to account for local conditions or particular cost penalties or advantages the Board expects to face. Finally, the costs arrived at will have to be compared with the operator's formula for routes of various lengths typical of the area to be served.

2. PURCHASING

A primary responsibility in managing the Board-owned operations is to ensure that vehicles and equipment purchased meet the specifications of the Board while maintaining the lowest possible cost. In determining the lowest overall cost, consideration must be given to the initial purchase price, operating and maintenance costs and the expected useful life span of the vehicle or equipment.

VEHICLE PURCHASE

The purchase of vehicles is one of the more important elements in the management of Board-owned operations. Vehicles which have been carefully selected as to specifications and cost may produce great savings in operating and maintenance costs. Consideration must be given not only to the vehicle specifications, but also the usage expected.

Defining the Use of the Vehicle

In selecting the proper size of bus for the job, the Board must consider a number of factors:

- Board's service policies on maximum bus loadings
- number and ages of students to be transported
- forecasts of future transportation demands
- whether or not the bus is to be used for regular routes only, or for special education and excursions as well.

Once the Board has determined what the bus is to be used for and what the future demands for the bus are likely to be, it should then list the specifications which may make a certain bus best fit the purpose.

Prescribing Specifications

Regulations under the Highway Traffic Act require that all vehicles used for student transportation adhere to certain safety standards (see appendices). In addition to meeting these standards, the Board may want to consider other safety options it wishes to be included. Another factor to be considered in prescribing bus specifications is the road conditions the vehicle is expected to encounter. Heavier springs, axles, etc., may be necessary where the bus is to use predominently rough roads. Board drivers may prefer certain options for ease of driving, and these requests should be taken into account.

Awarding the Contract

Briefly, contracts for the purchase of vehicles are generally tendered according to the specifications prescribed by the Board. The Board would not necessarily be bound by the lowest bid, and all bids should be evaluated in terms of the following:

a) Safety and comfort
b) Visibility for driver
c) Ease of maintenance
d) Availability of parts and service
e) Quality
f) Cost

In selecting the best vehicle, the Board should consider the question of fleet uniformity. If the Board has it's own repair facilities, it may be easier to maintain a fleet consisting of the same make of vehicle rather than a number of makes all with differing parts. However, the concept of fleet uniformity must be weighed against the cost and quality of any other makes that are tendered.

Taking Delivery

When the vehicle has been delivered the Board must satisfy itself that all specifications in the call for tender have been met, and that the bus can pass a safety check by the Board's mechanic. The bus must then be licenced and entered on the fleet insurance policy.

PURCHASE OF SUPPLIES AND EQUIPMENT

The extent of purchasing supplies and equipment will depend on whether or not the Board maintains its own repair facilities. Naturally, the larger the repair operation, the more parts and supplies will need to be purchased and stored. However, there are a number of essentials, such as gasoline and oil, that will have to be supplied regardless of the repair facilities. These supplies should be purchased as much as possible in bulk on a tender basis to maintain a system which is open to public scrutiny. Smaller purchases of supplies may be made on a day-to-day basis from regular suppliers as they are needed.

3. BUSING OPERATIONS

Busing operations for Board-owned buses are essentially the same as for contracted services in that the Board is responsible for ensuring that the services are properly provided. This entails the design of routes and monitoring the service to ensure that it is provided according to the terms prescribed. Procedures for carrying out these functions are described in Chapters III and IV. Nevertheless, there are certain functions and responsibilities that are peculiar to Board-owned operations.

DRIVER SELECTION AND TRAINING

The qualifications for bus drivers and the procedure for obtaining a licence are included in Chapter II. Once a driver has been licenced, he should be thoroughly trained in the Board's policy affecting student conduct procedures, driving rules and service policy. As a condition of employment, the driver should be expected to attend all the Board-sponsored safety seminars.

The importance of careful selection of drivers cannot be overemphasized. All efforts of the Board to ensure safety, efficiency and economy require the drivers' co-operation if they are to be successful. In addition, the driver, by his behaviour and deportment, sets an example for the students which can influence their behaviour on the bus and reduce discipline problems.

DRIVER RESPONSIBILITIES

The Board must clearly define the duties and responsibilities of its full-time and part-time drivers. The actual transportation duties of both will be the same, however full-time drivers will usually have other duties when not driving their routes or excursions. Naturally the chief responsibility of the drivers is their regular daily routes, but other duties can include caretaking or working in the Board's garage facilities, if any.

Generally, before a driver begins his route he should complete a visual check of the equipment to ensure that everything is in good operating condition and that the vehicle is fully gased and oiled. After the route is completed, the driver should clean the interior of the bus and check the exterior to see if it needs cleaning.

SCHEDULING

Once routes have been designed and buses assigned to them, the next function is to assign these routes to the various drivers and schedule the route times. Drivers should remain on their routes rather than being switched so that they become familiar with the students, the road conditions and any potential hazards. Once a driver is familiar with a route, the schedule becomes relatively fixed and the bus arrives at the pick-up points at regular times.

In addition, the drivers and buses must be assigned to the excursions or field trips, depending on whether or not a Board-owned vehicle is to be used. If the driver is a full-time employee it becomes relatively simple for the Transportation Department to assign him to drive the excursions or field trips for the school he regularly serves. However, if the driver is part-time, it is necessary to assign some other driver who may be available.

4. MAINTENANCE, REPAIRS AND SERVICE

A major function of the Board-owned operations is the maintenance, repair and servicing of the vehicles to provide safe operation, lower operating costs, dependable service and longer vehicle life. To meet these objectives, a Board should consider whether the number of vehicles it operates warrants the establishment of a garage staffed with qualified mechanics who will carry out a program of maintenance and service.

THE MAINTENANCE PROGRAM

A proper preventive maintenance program of inspection and servicing can help prevent costly breakdowns. Basically, preventive maintenance helps to accomplish safer operations, lower operating costs, more dependable service and longer life.

In addition to the daily visual checks by the driver, a program of periodic inspection and service should be carried out in accordance with the manufacturer's recommendations. Generally, each bus should be inspected each month, but not less than once every 1,000 miles. A monthly check list is valuable for this purpose and is reproduced in Chapter III as Figure 3.4.

If preventive maintenance and service is not performed on a regular basis, the work of the mechanic occurs only when there is a breakdown which can result in a disruption of service.

FACILITIES AND EQUIPMENT

The decision to have a garage for storage, maintenance or repair of buses, depends on the size of the Board's operation. Boards with twenty or more buses generally find it more economical to do their own mechanical repairs rather than contract these operations out to a private garage. In addition, the garages can provide the vehicles with protection from the elements, which affords longer operating life and lowers costs.

Centralized facilities simplify the problem of maintenance and repair and provide a central depot where the drivers report, and gives the drivers a chance to report any malfunctions to the mechanics as they may occur. The garages need not be close to the schools, so long as they are not located in any of the extreme regions of the Board. Those Boards with large geographic areas may have to maintain several garages simply for the sake of economy and efficiency.

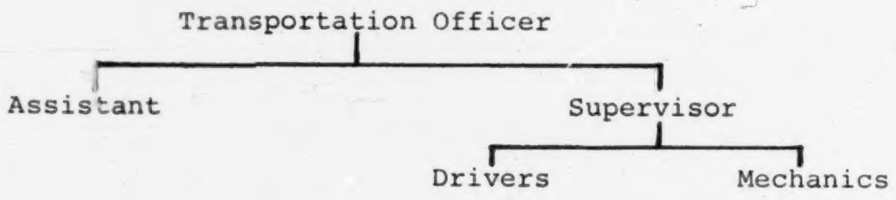
The garages, if they are to be used for extensive repairs rather than storage, should be equipped with the necessary equipment for carrying out the repairs and maintenance, such as lifts, storage area and washing facilities.

STAFFING

The responsibilities of a Board which operates its own vehicles are increased greatly. Unlike a Board without Board-owned operations, the Board must perform the functions of private operator and Board. Naturally, to carry out these increased functions and responsibilities the Board requires a more extensive transportation staff.

In addition to the full-time Transportation Officer, whose main responsibilities are outlined in Chapter I, the Transportation Department would contain a Supervisor, who would be in charge of the day-to-day operations of the drivers and mechanics. Depending on the size of the Board's operations, it may also be necessary to have an assistant

Transportation Officer to share the basic responsibilities of the Transportation Department.



THE SUPERVISOR

Generally, the Supervisor is in charge of the day-to-day operations of the Board's vehicles. He would be responsible for:

- bus records
- allocation of buses to routes
- driver assignments
- maintenance and repair of buses
- supervision of mechanics (or in smaller operations, contracting the work out to private mechanics)
- purchase of parts and supplies for garage facilities

In order to carry out these responsibilities, the Supervisor needs:

- operating information on buses (or driver's daily log, Figure 6.1)
- information on completed and required repairs or maintenance.

TRANSPORTATION DEPARTMENT

DRIVERS DAILY LOG

Date ____________________

PART I

BUS # ____________________

DRIVER ____________________

												MILEAGE		
		NO. OF STUDENTS	PUBLIC	JUNIOR HIGH	SECONDARY	VOCATIONAL	SPECIAL EDUCATION	FIELD TRIP	SPORTS	MUSIC	MISCELLANEOUS	START	FINISH	TOTAL
Trip #1 School														
Time at School	Arr. Dep. Ret.													
Trip #2 School														
Time at School	Arr. Dep. Ret.													
Trip #3 School														
Time at School	Arr. Dep. Ret.													
Trip #4 School														
Time at School	Arr. Dep. Ret.													
Trip #5 School														
Time at School	Arr. Dep. Ret.													
Trip #6 School														
Time at School	Arr. Dep. Ret.													

PART II

CARETAKING ASSISTANCE

School ____________________

Reported to Head Caretaker

TIME: a.m. ________ p.m. ________

PART III

DAILY INSPECTION

REPORT DEFECTS IN BUS OPERATION ON PART IV AND FORWARD TO SUPERVISOR OF TRANSPORTATION SERVICES.

CHECKED	INITIAL	CHECKED	INITIAL
Radiator		Tires	
Oil		Flashing Signals	
Battery		Lighting System	
Gas Gauge		Radio Check a.m. p.m.	
Oil Pressure		Emergency Door and Buzzer	
Ammeter		Flares or Reflectors	
Windows and Mirrors		Fire Extinguisher, Aid Kit	
Wipers		Oil and Water Leaks	
Brakes		Body	
Horn		Power Train (chassis)	

FIGURE 6.1

PART I

a) REGULAR SCHEDULED RUNS

Time Entries – A.M. – Arrival at School (only)
NOON– Departure from School and Return to School (only)
P.M. – Departure from School (only)

b) SPECIAL LEARNING – SWIM – DENTAL

Time Entries – A.M. and P.M. –
Departure from first school on your schedule (only)
Arrival at the last school on your schedule (only)

c) FIELD TRIPS – SPORTS – MUSIC or all out of school events

Time Entries at school (only)
Arrival
Departure and
Return

PART II

When on driving duties, drivers are not required to complete Part II, since their assignments are being recorded in the Despatch Office.

When not assigned to driving duties, and if the interior of your bus requires cleaning, it is most important that you call the Despatcher for record purposes.

Cleaning should be carried out on school property (when possible) where cleaning material and telephone communication are available.

PLEASE DO NOT SWEEP LITTER FROM YOUR BUS ON THE SCHOOL GROUNDS.

RECORDS AND COST ANALYSIS

The actual system of operational records must be tailored to fit the needs of the particular transportation system involved, and what may be considered suitable records for a smaller system may be entirely inadequate for a larger one. Basically, records should be kept of:

- the size and condition of each bus
- the repairs and preventive maintenance performed on each bus
- the parts and labour involved.
- the gas, oil, etc., used by each bus
- the fixed costs expected on each vehicle.

An example of these records is found in Figure 6.2. From these records an accurate picture of the operating costs can be developed for each bus and specifications for the purchase of buses and equipment can be developed from these cost analyses. The decision on what size of vehicle should be purchased can be made easier by the knowledge of the cost of operating a particular size of vehicle. In addition to accurate records on the cost of operating its own transportation system, the Board should be constantly evaluating these costs with the costs of its contracted operations.

BUS SUMMARY

Month Ending: ______________________

EQUIPMENT NUMBER	FUEL		MILES		MILES PER SCHOOL							HOURS OF USE	TOTAL NUMBER OF PUPILS	MAINTENANCE			REMARKS
	Gas Gals.	Oil Qts.	During Month	Speedo. Reading	P. S.	Jr. Hg.	S. S.	Voc.	SP. ED.	Misc.	Lost			Labour Cost	Material Cost	Total Cost	

____

Supervisor Transportation Services

FIGURE 6.2

VII. MINISTRY OF EDUCATION PROCEDURES & FORMS

In order to maintain effective control over the school transportation grants the Ministry of Education has devised several methods of calculating the amount of the grant since the program was begun.

1. RATIONALE FOR TRANSPORTATION GRANTS

The present policy of the Ministry of Education is to recognize for "extraordinary" grant purposes expenditures related to the transportation of students from home to school and return, and, from one school to another for courses of study requiring special facilities and/or equipment. Transportation of students for purposes other than these are considered "ordinary" expenditures.

In general terms, the grant is paid in the year in which the expenditure is made and is a percentage[1] of the lesser of:

(a) a board's annual expenditure, and

(b) an expenditure "ceiling" calculated for the board using a specific formula provided by the Ministry.

THE OLD FORMULA

Originally the formula used in the calculation of the expenditure ceiling simply consisted of a per student allowance based on the distance a student lived from school, multiplied by the number of days the student was transported in the school year. The need for a change was brought about by two factors. First, there was the problem of identifying each student and measuring the distance the student lived from school by the most direct route. The larger the board, the more difficult the task. The second was that the amount of "ceiling" generated by the formula did not truly relate to the board's cost of operating a large transportation system.

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[1] *See "Rate of Grant on Recognized Extraordinary Expenditures" in the General Legislative Grant Regulations.*

THE NEW FORMULA

The new formula is based on three factors which can be readily related to a transportation system. They are:

(a) the number and size of vehicles used to transport the students,
(b) the number of miles travelled by the vehicles, and
(c) the number of pupils transported.

A simple application of the formula might be one where a school board transports 60 students in a school bus which has a seating capacity of 60 student places. The board, having used the vehicle to its capacity, would be entitled to receive grant on expenditures up to the amount of the basic "expenditure ceiling" provided for that size of vehicle. The actual formula provides an "expenditure ceiling" for each size of vehicle and the board's efficiency in the use of the vehicles is determined by comparing the total number of students carried to the total seating capacity of all vehicles used, except that the students enrolled in grades seven and higher are weighted by 1.15 to reflect "rump size" and the total seating capacity of the vehicles is reduced to 95%, in that not all buses can be filled to capacity at all times.

The amount of the "basic approval amount" per vehicle used in the calculation of the expenditure ceiling is determined by using a fixed and variable formula similar to that outlined in Chapter V-2, except that consideration is also given to the cost of the Board's internal administrative services. The approval amount for Board-owned vehicles is 80% of that determined for contract vehicles. This difference is as a result of a school board being entitled to a separate grant on the purchase of school buses and to the fact that the Board does not have to include a profit factor in its costs.

Costs and levels of service vary across the Province; it is therefore not expected that the "expenditure ceiling" generated by the new formula will always cover all of the Board's actual costs. It is anticipated that where a Board has studied its system carefully and exercised sound management procedures, the Board's actual costs should be accommodated within the "expenditure ceiling". It should be noted that the expenditure in excess of the "ceiling" must be borne by the ratepayers supporting the Board.

The Ministry's grant structure also includes a daily allowance for pupils transported by public transit and gives special consideration to pupils transported by unusual modes of transportation.

2. MINISTRY OF EDUCATION FORMS

Applications for approval for grant purposes of expenditures related to the transportation of students is made to the

Ministry on the forms listed in Appendix D. A sample completed copy of each form is included in numerical sequence in the appendix.

Additional information and assistance in completing the forms is available from the business administration staff located in the Regional Office of the Ministry.

APPENDIX A

CURRENT PRACTICES IN ONTARIO

On January 3rd, 1973, a questionnaire was distributed to 120 school boards in Ontario to provide information on the transportation policies and practices of Boards across the Province. The survey covered questions relating to service and safety policies, routing, contracting, vehicles and Board-owned operations, as well as staffing arrangements and salaries. A copy of the questionnaire is included at the end of this Appendix.

Of the 120 questionnaires distributed, 76, or 63% of the Boards, replied, representing annual transportation budgets of $47.4 million, or approximately 85% of the total for the Province. The purpose of this Appendix is to present an analysis of the results of the questionnaire to provide information to Boards considering changes to their transportation policies and procedures.

The Appendix is organized into sections paralleling the chapters of the Handbook. The results are presented in factual form without comment as to their appropriateness, since they are meant to inform Boards of the practices of others and not to recommend what practices should be followed. Also, during analysis of the survey results, there was found to be no readily perceivable difference in the policies of large and small Boards or between Northern and

Southern Boards. Therefore, in the discussion below, the results are presented for all Boards, independent of size and location.

TRANSPORTATION MANAGEMENT

Of the 76 Boards replying to the questionnaire, only 24, or 32%, had a full-time Transportation Officer. In the case of those Boards with part-time Transportation Officers, the assignment of time devoted to transportation duties varied from a low of 5% to a high of 75%. Generally, the distribution of time spent and salary was:

Time	Average Salary	Average Transportation Budget
Under 25%	$11,430	$153,200
25%-49%	$12,240	$285,200
50%-75%	$10,583	$741,000
100%	$10,439	$1,078,000

Sixty per cent of the respondents stated that they reported to the Business Administrator.

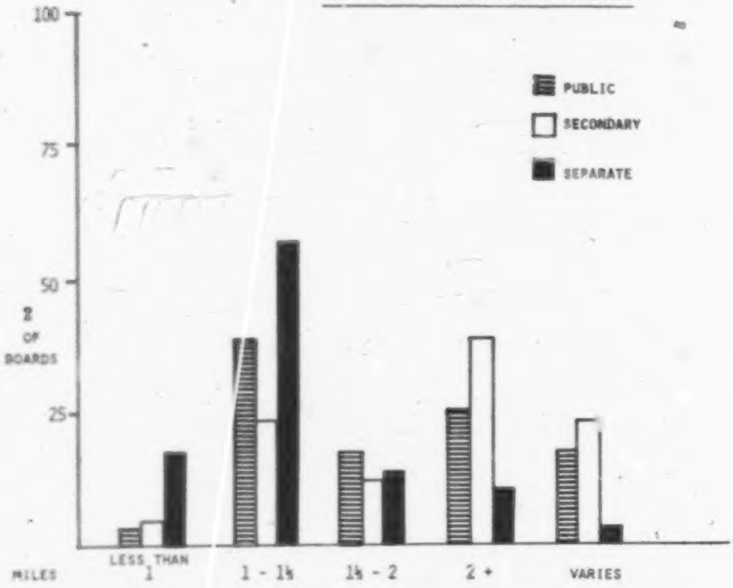
TRANSPORTATION POLICIES

The survey included questions dealing with policies on eligibility for service, levels of service provided, the degree to which Boards operated combined routes, use of public transit, and, finally, on safety policies.

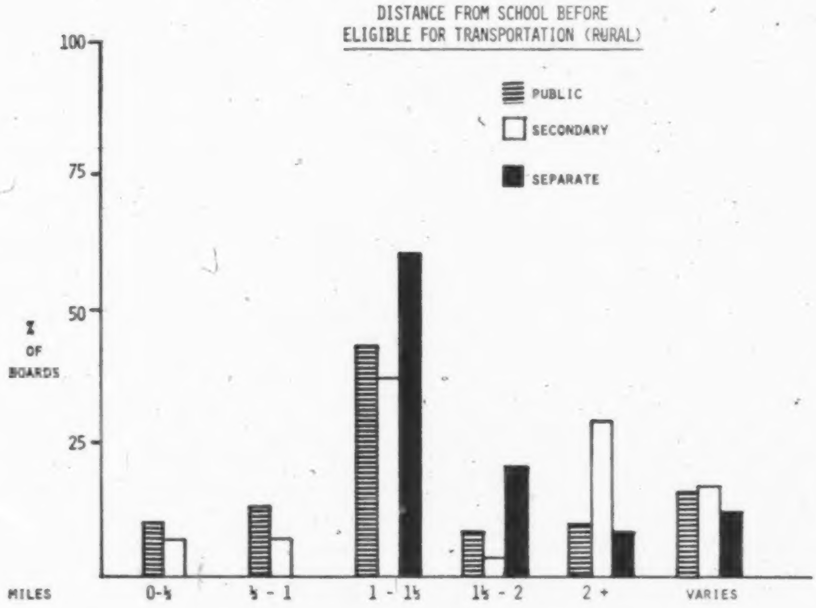
Eligibility for Service

- Urban Students: 78% of the Boards responding provide transportation in urban areas for public school students, 60% for secondary, and 94% for separate. Eligibility for this service varies from Board to Board according to the distance the student lives from the school; but the most common distances are one to one-and-one-half miles for public and separate school students, and over two miles for secondary school students.

DISTANCE FROM SCHOOL BEFORE ELIGIBLE FOR TRANSPORTATION (URBAN STUDENTS)



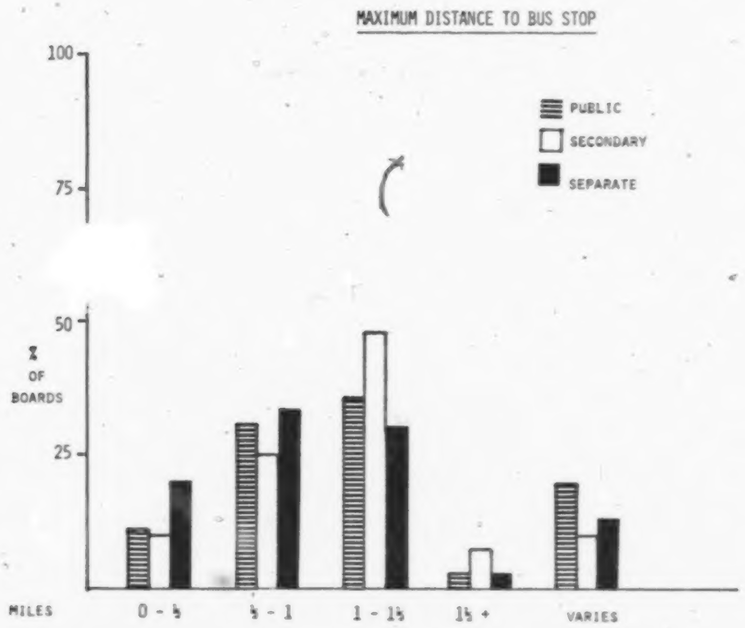
- Rural Students: In the rural areas there is again variation in the criteria for eligibility, although the one to one-and-one-half mile criteria was the most frequently reported for all types of student.



Service Levels

- Distance to the bus stop - there is a great deal of variation in the maximum distances Boards require students to walk to the bus stop. 48% of the Boards require secondary students to walk up to one to one-and-one-half miles, 36%

of the public school students are required to walk this distance, and 31% walk one-half to one mile. The separate school Boards are almost evenly split: 34% require their students to walk one-half to one mile, and only slightly fewer (31%) require them to walk one to one-and-one-half miles.

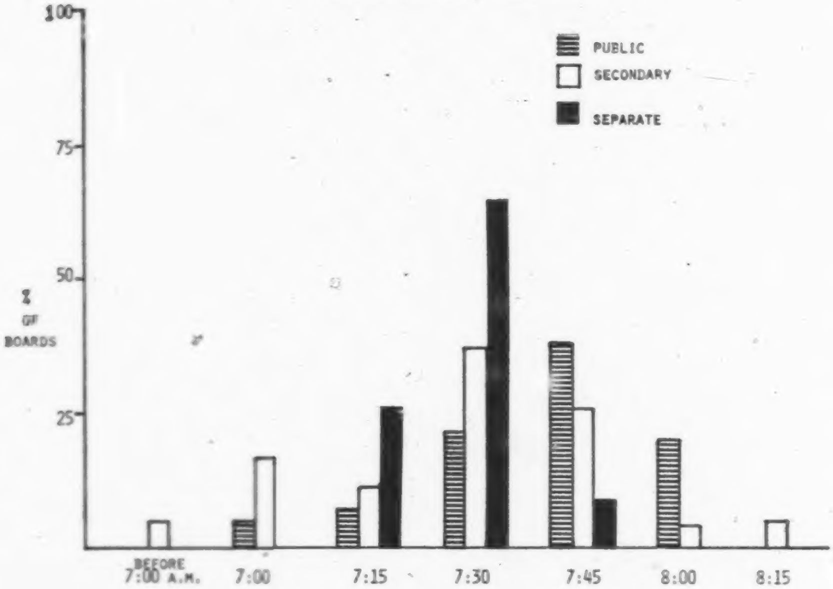


In addition to the service levels relating to distances, there is also variation in the times students are picked up and delivered at the schools.

- Earliest Pick-up Time:

From the survey it appears that the most popular time for earliest pick-up of separate school students is 7:30 a.m., with almost 64% of the Boards preferring this time. While 37% of the Boards state this time for secondary students, an additional 26% prefer 7:45, which is also the most popular time for public school students, with 37% of the Boards reporting this time.

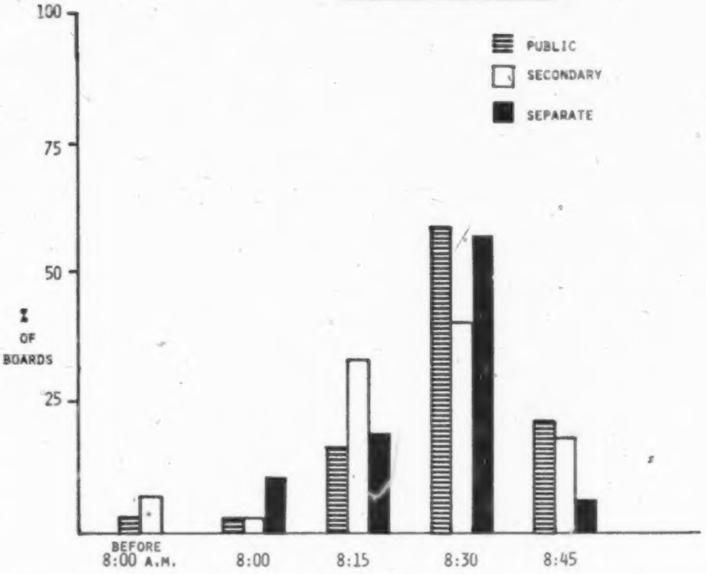
EARLIEST TIME FOR STUDENT PICK-UP



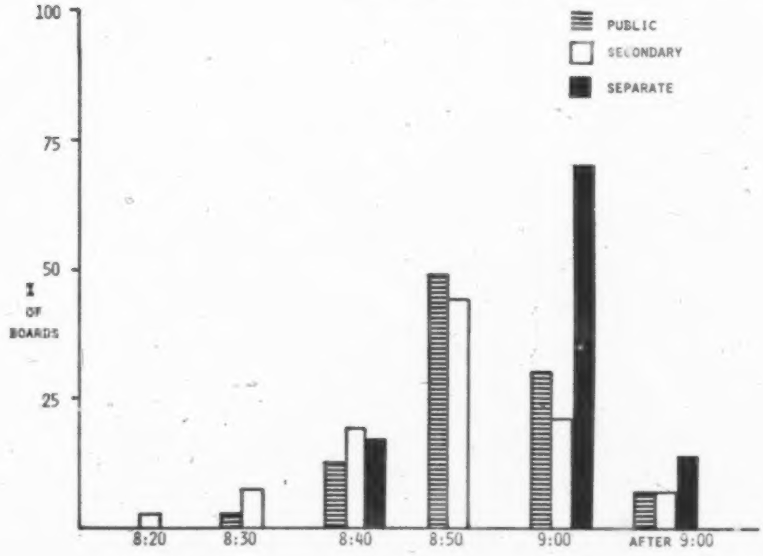
- School Arrival Time:

The results for school arrival times show that the most popular earliest arrival time is 8:30 for all types of Boards, although many Boards allow secondary students to arrive at 8:15. The latest arrival time for most Separate Boards is 9:00, and 8:50 for most Boards of Education.

EARLIEST SCHOOL ARRIVAL TIME



LATEST SCHOOL ARRIVAL TIME



- Staggered School Hours: Of those Boards responding to the survey, 31% have staggered hours for public schools, 22% for secondary schools, and 50% for separate schools. It should be noted that this may be a result of Boards making more efficient use of space as well as aiding in the scheduling of buses.

- Maximum Bus Loading: Another service consideration relates to the maximum bus loadings permitted by each Board, and includes the Board's policy of permitting standees. 51% of the Boards permitted public school students to stand, 53% permitted secondary students to stand, and 42% of the Separate school Boards permitted standees.

  The Boards were also asked to state the number of pupils they considered could be loaded on a manufacturer's rating 60-passenger bus. Here responses were somewhat inconsistent. There was a great variation between the numbers quoted for elementary aged children, all Separate Boards reporting a loading of 55 to 60 pupils, while some 38% of the Boards of education reported that less than 45 pupils could be carried. The results are as follows:

Number of Students	Public	Secondary	Separate
55-60	26%	80%	100%
50-54	17%	20%	
45-49	19%		
Under 45	38%		

Combination of Routes

- Elementary and Secondary: Of the Boards responding, a significant percentage (35%) stated they had nearly full integration (over 75%) of route services for elementary and secondary students, while 22% stated they had separate or near separate (under 10% combined) routes for elementary and secondary students. The remaining 43% had some degree of combination.

Degree of Combination	Percent of Boards
over 75%	35
51% - 75%	3
26% - 50%	18
10% - 25%	22
under 10%	22

- Between Boards: 55 of the 76 Boards responding operate joint routes with either other Boards in their area (that is, Boards of Education with Separate Boards), and/or with neighbouring Boards. Of these, 45% operate joint routes with both neighbouring Boards and the other Board in the area, 42% operate joint routes only with the other Board in their area, and 13% only with the neighbouring Board.

- Kindergarten Students are provided a higher level of service by almost all the Boards. 27% of the Boards provide special routes for these students, both to and from home, while the remainder (73%) combine kindergartens with other students on one portion of the trip and have special routes on the homeward portion.

- Special Education Students: Many Boards also have separate routes for special education students. 68% of the Boards provide special routes for the handicapped, 59% special routes for the trainable retarded, and 29% for the opportunity or occupational students.

Public Transit

Of the Boards serving urban centres with public transit facilities, 47% also operate their own routes in these areas. Many Boards also pay for the transit fares for both regular and special education students:

Pay Fares For:	Boards of Education	Separate Boards
Regular Students	48%	39%
Special Education	53%	43%

Safety Policies

Of those responding to the questionnaire, 56% stated they had safety patrols on their buses, and 51% conducted regular safety seminars for the operators and drivers.

In addition to these safety policies, 57% required their private operators to send them copies of the Ministry of Transportation and Communications' mechanical fitness certificate.

ROUTING PRACTICES

Generally, routing seems to be a joint function of the operator and the Transportation Officer, with the Transportation Officer having the greatest degree of participation.

While 35% stated the routes were designed solely by the Transportation Officer, the remainder stated they were designed jointly, with the degree of participation in design varying greatly:

% Participation by Transportation Officer in Route Design	% of Responses
100%	35%
75% to 85%	20%
55% to 74%	13%
50% to 55%	19%
less than 50%	13%

Routes are usually redesigned only when the need arises, and generally stay the same from year to year. Only 5% stated all the routes were changed yearly, and 23% that some of the routes were changed yearly. The greatest response (40%) was from those who altered routes only for changes in attendance areas or for other special circumstances. The remainder (32%) stated that their routes stayed essentially the same from year to year.

When routes are designed, there is a tendency to serve only one school, although there are many multi-school routes. Fifty-four per cent of all routes serve one school, while 24% serve two schools, and 22% serve three or more schools.

In designing routes, only eight Boards (11%) had experimented with computer-aided design. Of these, four stated it was of some use, while four stated it was of little or no use.

CONTRACTING AND BOARD-OWNED OPERATIONS

Of the 76 Boards, 41 (or 54%) own and operate their own buses. However, these operations account for only 611 buses, or 8.5% of the total buses operating on routes. Twenty-one Boards stated they operated their buses to provide competition to the private operators, 17 operated them for historical reasons, and 13 said it was cheaper.

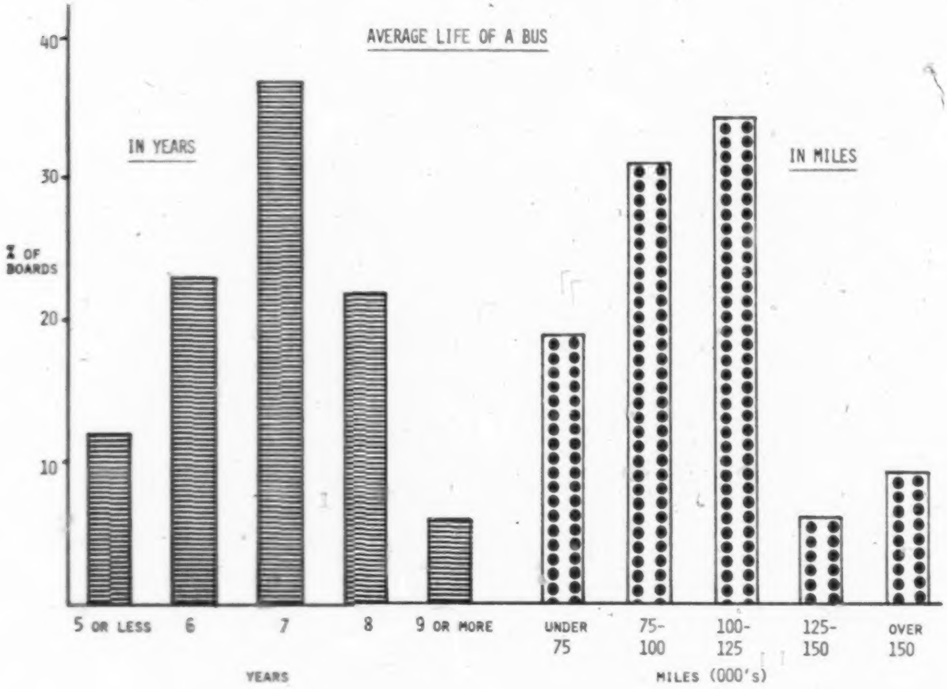
In their contracting methods with private operators, fewer than a third of the Boards tender. Responses showed the basis to be:

Negotiations with fixed plus variable cost:	36%
Negotiations with flat rate	33%
Lowest tender	31%

Most route contracts usually run for a period of one year (60%). However, the next most popular term was for three years (30%). Relatively few ran for two years. If the contract was for more than one year, an escalation clause was written into the agreement in about 55% of the cases. This annual increase varied from Board to Board, with most of the Boards using a flat percentage increase, although several tied any escalation to the Consumer Price Index. Other percentage increases ranged from 1%-6%.

In addition to the regular route contracting methods, excursion contracts were also arranged by the Transportation Officer in 50% of the Boards. In the other Boards, excursions are arranged by the schools. Excursions are contracted on the basis of fixed cost per trip in 38% of the responses, mileage plus hourly waiting time in 30% of the responses.

Finally, Boards tend to estimate average bus life in terms of years and miles travelled. There is a wide spread, although seven years, or 100,000 miles, are the most commonly reported estimates.



In terms of the size of buses now being purchased, the most popular is the 66-passenger (43%) followed closely by the 72-passenger (39%).

* * * * * * * *

Overall, the results of this survey show a wide variation in both practices and policies of Boards across the Province. Using the data in this Appendix, Boards may wish to review their own approaches in the light of those of other Boards.

School Transportation Questionnaire

Please return to Peter Barnard Associates, 62 Charles Street East, Toronto M4Y 1T1
By December 27, 1972

Board Name ______________________ Phone number __________

Name of person completing form ______________________

Total enrollment __________ Number of students transported __________

Number of schools __________ Number of schools with transportation __________

VEHICLES

Total number of buses being used (private & board) __________

Board owned buses: Total number __________

Number used for: Regular daily routes ______ Excursions ______ Handicapped & special education ______

Private operators: Total number of buses under contract __________

Number used for: Regular daily routes ______ Excursions ______ Handicapped & special education ______

Number of operators under contract ______ Number of buses owned by largest operator ______

Size of vehicles - (private & board) Number of taxis: ______ Which is the most popular now being purchased

Number of 15-passenger vans: ______ check here

Number of 36-passenger buses: ______ ☐

Number of 48-passenger buses: ______ ☐

Number of 54-passenger buses: ______ ☐

Number of 60-passenger buses: ______ ☐

Number of 66-passenger buses: ______ ☐

Number of 72-passenger buses ______ ☐

Number of 78-passenger buses: ______ ☐

Number of 84-passenger buses: ______ ☐

Number of other (please state size): ______

What is the average life span for a bus in your area; in miles: __________ in years: __________

SAFETY AND SERVICE POLICIES

Are elementary and secondary students transported:

☐ Separately

☐ One system for all

☐ Have some combined routes If so, what % ______

Does your board operate joint routes with other boards

☐ Yes ☐ No

If yes, with the other board in your area ☐ What % ______

with neighbouring boards ☐ What % ______

Are there separate routes for kindergarten:

☐ To school and to home

☐ One way only

Are there separate routes for:

☐ Physically handicapped

☐ Trainable retarded

☐ Opportunity or occupational

	ELEMENTARY	SECONDARY
Earliest time for student pick-up:	______ A.M.	______ A.M.
Earliest school arrival time for students:	______ A.M.	______ A.M.
Latest school arrival time	______ A.M.	______ A.M.
Distance from school before eligible for transportation:	______ Miles	______ Miles
Maximum distance students must walk to bus stop:	______ Miles	______ Miles
Do you have staggered school hours between schools:	☐ Yes ☐ No	☐ Yes ☐ No
Are standees permitted on vehicles:	☐ Yes ☐ No	☐ Yes ☐ No
Is transportation provided for urban students:	☐ Yes ☐ No	☐ Yes ☐ No
If yes, how far must they live from the school:	______ Miles	______ Miles

Do you have safety patrols on your buses:

☐ Yes ☐ No

Do you have regular safety seminars for the operators and drivers:

☐ Yes ☐ No

Do you receive copies of the Provincial Safety Certificates:

☐ Yes ☐ No

ROUTING

Who designs routes:

☐ Operator

☐ Transportation Officer

☐ Designed jointly

Degree of participation ______ % Transportation Officer

______ % Operator

Number of regular routes: ______

How many routes serve one school: ______ two schools: ______ three or more schools: ______

Have you experimented with computer-designed routes: ☐ Yes ☐ No

☐ If yes, did you find this ☐ Very useful ☐ Some use ☐ No use

When are the routes changed:

☐ All or most changed yearly ☐ Some changed yearly ☐ Routes stay essentially the same year to year

☐ Changes only for new attendance areas or special circumstances

☐ Other, please specify: ______

When designing routes, how many students would you consider can be loaded on a 60-passenger bus (Manufacturer's rating).

Secondary ______ Elementary ______

Who arranges for excursions:

☐ School

☐ Transportation Officer

What formula is used to pay for these excursions:

☐ Mileage rate ☐ Fixed rate

☐ Hourly rate ☐ Other: ______

CONTRACTING

What contracting method is used:

Negotiation with ☐ Fixed + variable cost

Negotiation with ☐ Flat rate per diem

Lowest tender ☐

Other, please specify ______

Number of contracts which run for:

☐ 1 year ☐ 2 years ☐ 3 years

If contract is for more than one year, is there provision for annual increment: ☐ Yes ☐ No

If yes, what is the provision: ______

In cities and towns with public transit:

Does the board operate its own routes

☐ Yes ☐ No

Does the board pay for public transit fares for regular students ☐ Yes ☐ No For special education ☐ Yes ☐ No

Why does the board operate its own buses

☐ Historical reasons

☐ To provide some competition to private operators

☐ Cheaper - If so, how much cheaper ______ %

STAFFING

Transportation officer: Is he full-time ☐ Yes ☐ No

If no, what percent of time is spent by person responsible for transportation ______ %

Approximate annual salary of person responsible $ ______

To whom does person responsible for transportation report

☐ Director ☐ Business administrator ☐ Other, please specify

Are there other transportation staff ☐ Yes ☐ No

If yes, how many full-time ___ salary range $ ______ % of time spent on transportation ______ %

part-time ___ salary range $ ______ % of time spent on transportation ______ %

What is the boards annual budget for: transportation $ ______ transportation department staff $ ______

N. B. If you have comments on any questions please use reverse sides.

If the board has any written procedures on safety or service policies which might be of some use in the proposed manual please enclose copies with this survey.

APPENDIX B

A HISTORY OF SCHOOL BUSING IN ONTARIO*

School transportation in Ontario dates back to the turn of the century with the first children being transported in horse-drawn vans and heated sleighs. Since then, school busing has grown to become an important service costing in excess of $50 million and transporting over 500,000 students annually.

The Hudson Public School Board is the earliest board on record to transport students. In 1908, students from the area, which is near Sioux Lookout, were transported in sleighs equipped with stoves. However, except for this early example, school busing was not used to any extent until 1919, when the Provincial Government passed the Consolidated School Act. The Act was intended to consolidate the rural school boards into larger, more viable boards to operate central graded schools. Fourteen consolidated boards were created at that time, however, financial constraints limited the development of the necessary transportation systems. A further reorganization of school boards in the 1930's, this time along township lines encouraged the closing of smaller schools and the transportation of the students to centralized schools with better facilities. Provincial grants for transportation were first introduced at this time.

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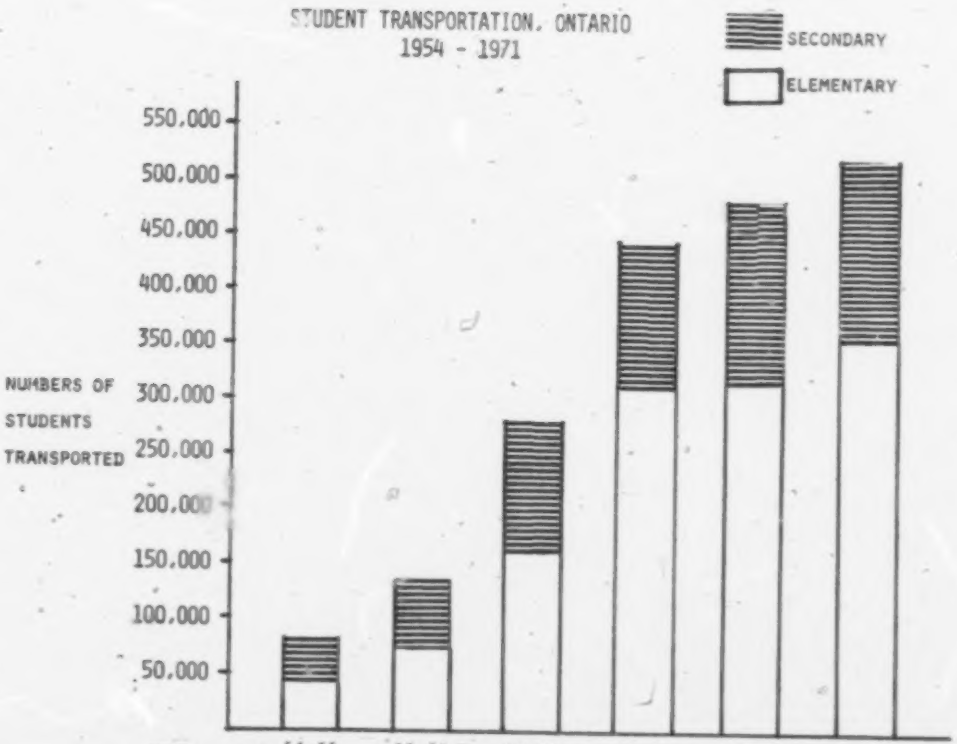
* - *Material supplied by Mr. G.L. Duffin, former Assistant Deputy Minister of Education.*

In 1940, despite increases in the grants, the shortage of vehicles seriously limited busing activities. Boards, unable to buy school buses, were forced to use cars, ancient buses and, in one reported case, an old hearse. Accordingly, there was little expansion in busing activity during the war.

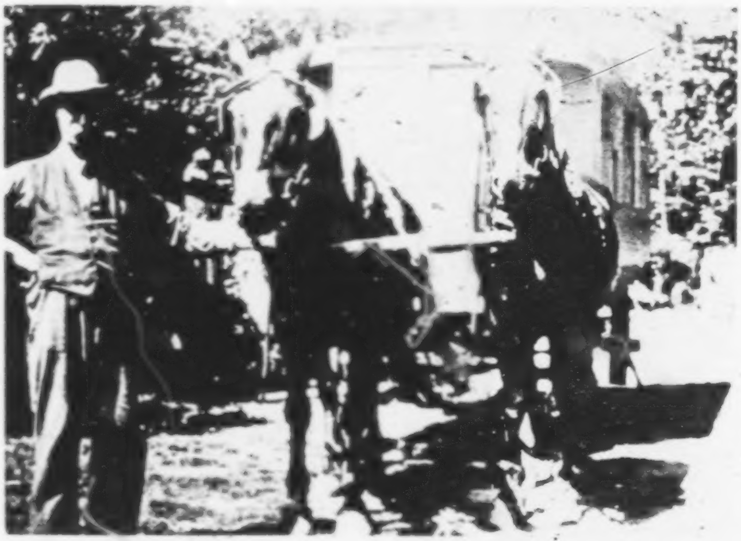
The real expansion in school busing came following the end of World War II. County councils began dividing counties into high school districts, and closed more than 200 schools with the aim of providing secondary schools with a minimum enrollment of 300 pupils. The creation of the central high schools required a major expansion in school busing activity. The expansion was mainly taken up by private contractors, fewer than 10% of the boards purchasing their own vehicles. Along with the expansion came the first organized concern for safety with regulations being adopted setting minimum safety standards for vehicles.

Up to the 1960's, school busing had been largely confined to secondary students, but the observation that many elementary children were walking long distances to one-room schools led to a further expansion of the system. By the mid-sixties, almost all rural students were being provided transportation, in fact, the Schools Administration Act excused students from attendance according to their age and distance from school, if transportation was not provided.

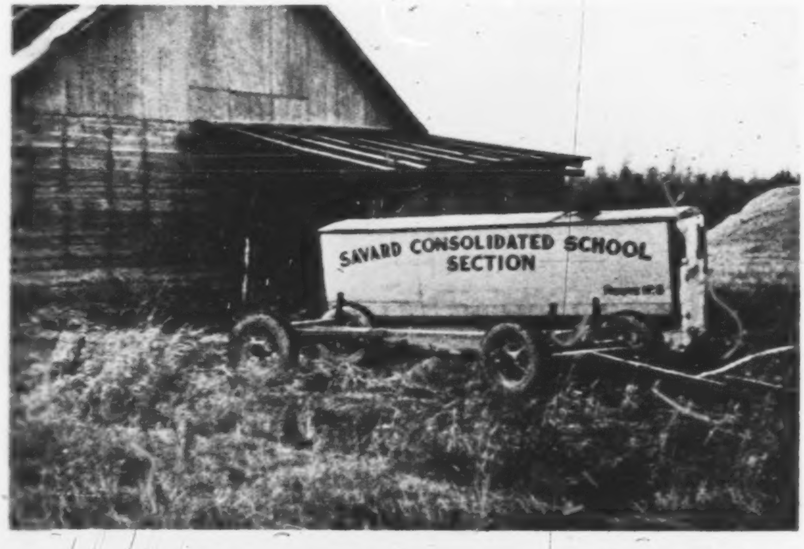
The last two decades have seen a remarkable growth in the transportation service. In 1950, school boards transported 54,000 students at a cost of $4,3000,000, which averaged 39 cents per student per day, and 21 cents per mile. In 1970, 523,000 students were transported, at an average of 56 cents per student per day, for a total cost of $52,839.294.


STUDENT TRANSPORTATION, ONTARIO
1954 - 1971

YEAR	54-55	59-60	64-65	68-69	69-70	70-71
TOTAL ENROLLMENT	933,104	1,319,225	1,673,774	1,931,397	1,986,796	2,022,401
% TRANSPORTED	9.5	10.5	17.0	23.2	24.1	25.9
COST	$6,693,011	$13,318,816	$24,842,400	$40,506,181	$47,032,170	$52,839,294



1923



1930's?

1922

APPENDIX C

OTHER INFORMATION OF VALUE

REGULATION 424
UNDER THE HIGHWAY TRAFFIC ACT

SCHOOL BUSES

1. (1) Every motor vehicle while being operated by or under contract with a school board or other authority to transport children to or from school shall,

(a) where the vehicle has a seating capacity for ten or more passengers display the words, "school bus" on the front and rear thereof placed as near as is practicable to the top of the vehicle in a clearly visible position in black letters at least eight inches high with lines forming the letters at least 1¼ inches wide on a yellow background, or

(b) where the vehicle has a seating capacity of fewer than ten passengers, display the words, "school bus" in a position clearly visible from the front and from the rear of the vehicle and in letters of the dimensions presented in clause (a).

(2) The words "school bus", as prescribed in subsection (1), shall be covered or concealed when the vehicle is being operated on a highway for purposes other than the actual transportation of children either to or from school. R.R.O. 1970, Reg. 424, s.1.

2. Every motor vehicle having a seating capacity for ten or more passengers while being operated by or under contract with a school board or other authority for the transportation of children to or from school and while being operated on a highway or part of a highway on which the maximum speed limit is greater than 35 miles per hour shall,

(a) display the words "do not pass when signals flashing" on the rear thereof placed below and as near as is practicable to the words "school bus" in a clearly visible position in black letters at least three inches high with lines forming the letters at least one-half inch wide on a yellow background; and

(b) be equipped with signal lights that have an effective illuminating area of at least twelve square inches and that produce a light of an intensity that is clearly visible at a distance of at least five hundred feet, and that are attached and operated as follows:

1. Two signal lights shall be placed on the front of the bus in as high a position as is practicable and as far apart laterally as is practicable, and shall, when operating, alternately produce flashes of red light visible only from the front of the bus.
2. Two signal lights shall be placed on the rear of the bus in as high a position as is practicable and as far apart as is practicable, an[illegible]hall, when operating, alternately produce flashes of red light visible only from the rear of the bus.
3. the signal lights prescribed in paragraphs 1 and 2 shall be actuated by a control device accessible to the driver and equipped to give him a clear and unmistakable signal either visible or audible when the signal lights are operating. R.R.O. 1970, Reg. 424, s.2.

3. Every motor vehicle operated,

(a) by a school board for the transportation of children to or from school, or

(b) under contract with a school board solely for the transportation of children to or from school,

shall be painted chrome yellow with black trim. R.R.O. 1970, Reg. 424, s.3.

4. (1) No motor vehicle having a seating capacity of ten or more passengers shall be operated by or under contract with a school board or other authority to transport children to or from school unless,

(a) it is equipped with an interior mirror designed to provide the driver with a view of the passengers and two exterior rear view mirrors, one on the left and one on the right of the vehicle set to give the driver a clear view past the left rear and right rear of the vehicle;

(b) it is equipped with tire chains or snow tires for each driving wheel that is not of the dual type that are placed on the wheels when the conditions of the highway require their use;

(c) it is equipped with an accurate speedometer placed to indicate to the driver the speed of the vehicle at all times;

(d) it has a body floor constructed and insulated to prevent exhaust gases of the engine from entering the passenger compartment of the vehicle;

(e) it is equipped with two windshield wipers that operate at a constant speed and an effective defrosting device that provides clear vision through the windshield and the windows on the left and right sides of the driver;

(f) it is equipped with a light or lights arranged to provide light to the whole of the interior except the driver's position, and that are constantly lighted during darkness when there are passengers in the vehicle.

(g) it is equipped with an axe or clawbar and an adequate fire extinguisher both securely mounted in such a manner and place as to be readily accessible.

(h) it is equipped with dependable tires that in the case of front tires have not been rebuilt;

(i) it is equipped with at least one door or exit and,

 (i) a door or exit to be used only in an emergency at the rear of the vehicle or near the rear on the left side of the vehicle, or

 (ii) subject to subsection 2, at least three push-out windows on each side of the passenger compartment of the vehicle each of which,

  a. has a minimum height of twenty inches and a minimum width of thirty inches

  b. is designed, constructed and maintained to open outwards when a reasonable amount of manual force is applied to the inside of the window, and

  c. displays on or adjacent to the window adequate directions for its emergency use; and

(j) on or before the 31st day of August and the 31st day of December in each year there is filed with the Department evidence that the vehicle is mechanically fit.

(2) A motor vehicle that is equipped in accordance with subclause (ii) of subsection (1) shall be equipped with an additional push-out window located in the rear of the vehicle. R.R.O. 1970, Reg. 424, s.4.

5. No person shall operate and no person shall employ a person to operate a motor vehicle when operated by or under contract with a school board or other authority to transport children to or from school and having a seating capacity of ten or more passengers unless the operator,
   - (a) is twenty-one years of age or over;
   - (b) holds a chauffeur's licence; and
   - (c) proves that he is competent to drive a school bus and passes such tests as are required to be taken for the purpose and the Minister endorses his licence for the operation of a school bus. R.R.O. 1970, Reg. 424, s.5.

THE HIGHWAY TRAFFIC ACT

119. Vehicles Required to Stop at Railway Crossings: The driver of,

(a) a motor vehicle having a seating capacity for ten or more persons, when transporting children to and from school or

(b) a public vehicle,

upon approaching on a highway a railway crossing that is not protected by gates or railway crossing signal lights or unless otherwise directed by a flagman, shall stop such vehicle not less than 15 feet from the nearest rail of the railway and, having stopped, shall look in both directions along the track and open a door of the vehicle and listen for any approaching train and, when it is safe to do so, shall cross the railway track in a gear that he will not need to change while crossing the track, and he shall not change gears while crossing. R.S.O. 1970, c.202, s. 119.

120. (1) Interpretation: In subsections 2 to 5, "school bus" means a motor vehicle used for the transportation of children to and from school that,

(a) bears on the rear thereof the words "do not pass when signals flashing", and

(b) is equipped with two red signal lights on the rear thereof and two red signal lights on the front thereof,

as required by the regulations.

(2) Duty of Driver When School Bus Stopped on Highway: Where a school bus is stopped on a highway or part of a highway on which the maximum speed limit is greater than 35 miles per hour for the purpose of receiving or discharging school children, the driver of a vehicle,

(a) when overtaking a school bus on which the words "do not pass when signals flashing" are marked and two red signal lights are illuminated by intermittent flashes; and

(b) when meeting on such a highway, other than a highway with a median strip, a school bus on the front of which two red signal lights are illuminated with intermittent flashes,

shall stop the vehicle before reaching the school bus and shall not proceed until the school bus resumes motion or the signal lights are no longer operating.

(3) Duty of Driver of School Bus to Actuate Signals: The driver of such a school bus upon a highway or part of a highway on which the maximum speed limit is greater than 35 miles per hour, when he is about to stop the school bus for the purpose of receiving or discharging school children, shall actuate the signal lights and shall continue them in operation while stopped for such purpose, and, in the case of such a highway that does not have separate roadways, until those children who of necessity must cross the highway have completed the crossing.

(4) Application of Subsections 2 and 3 to Certain Municipalities: The council of a defined city under Part IV of The Secondary Schools and Boards of Education Act, the council of a municipality in the school division under the jurisdiction of The Ottawa Board of Education, and the Council of The Regional Corporation under the Regional Municipality of

Ottawa-Carleton Act in relation to highways under its jurisdiction in such school division, and the council of an area municipality and of the Metropolitan Corporation under The Municipality of Metropolitan Toronto Act may provide by by-law that subsections 2 and 3 do not apply to the highways under its jurisdiction.

(5) Markings to be Covered When Bus Not Used to Transport Children: The words on a school bus "do not pass when signals flashing" shall be covered or concealed when the school bus is being operated upon a highway for purposes other than the transportation of children to or from school.

(6) Regulations re School Buses: The Lieutenant Governor in Council may make regulations,

(a) respecting the operation of vehicles or any class or type thereof used for transporting children to and from school and operated by or under contract with a school board or other authority in charge of a school;

(b) prescribing the type, design and colour of school buses or any class thereof and the markings to be displayed thereon;

(c) requiring the use of any equipment on or in such vehicles or any class or type thereof and prescribing the standards and specifications of such equipment;

(d) prescribing the qualifications of drivers of such vehicles or any class or type thereof and prohibiting the operation thereof by unqualified persons.

(e) requiring the inspection of such vehicles or any class or type thereof. R.S.O. 1970, c.202, s.120.

THE SCHOOLS ADMINISTRATION ACT

6. (2) When Attendance Excused: A child is excused from attendance at school, ...

(c) if transportation is not provided by a Board for the child and there is no school that he has a right to attend situated,

(i) within one mile from his residence measured by the nearest highway if he has not attained the age of seven years on or before the first school day in September in the year in question, or

(ii) within two miles from his residence measured by the nearest highway if he has attained the age of seven years but not the age of ten years on or before the first school day in September in the year in question, or

(iii) within three miles from his residence measured by the nearest highway if he has attained the age of ten years on or before the first school day in September in the year in question. ......

THE SCHOOLS ADMINISTRATION ACT

42. (1) Transportation of Pupils: A board may provide for a resident pupil, or for a person who is qualified to be a resident pupil, transportation to and from:

(a) a school that the board operates;
(b) a school operated by another board to which the board pays fees in respect of such pupil;
(c) the Ontario School for the Blind;
(d) an Ontario School for the Deaf
(e) an Ontario Hospital School; and
(f) a children's mental health centre established under the Children's Mental Health Centres Act. 1971. c.90, s. 7(1). R.S.O. 1970, c.68.

(2) Elementary to Secondary: An elementary school board may provide transportation to a secondary school for pupils whose parents or guardians are supporters of the elementary school and who do not reside in a secondary school district.

(3) Pupils in Unorganized Territory: A public school board may furnish transportation for pupils who reside in territory without municipal organization, but not in a school section, to a school that the board operates, to a school operated by another public school board or to a secondary school.

(4) Idem: A separate school board may furnish transportation for pupils who reside in territory without municipal organization, but not in a separate school zone or a school section, to a school that the board operates, to a school operated by another separate school board or to a secondary school. R.S.O. 1970, c.424, s.42(2-4).

(4a) Idem: A secondary school board may furnish transportation for pupils who reside in territory without municipal organization, but not in a school section, a separate school zone or a secondary school district, to a econdary school operated by the board. 1971, c.90, s.7(2).

(5) Purchase of a Bus: For the purposes of this section, a board may purchase a vehicle either from current revenue or from a debenture issued for that purpose.

(6) Agreements: For the purposes of this section, a board may make an agreement or agreements for one school year or less with a corporation, commission or person for the transportation of such pupils.

(7) Agreements not Exceeding Five Years: Where a board provides transportation for more than thirty pupils, the board may, with the approval of the Ontario Municipal Board, make an agreement for a term not exceeding five years.

(8) Boarding of Secondary School Pupils Residing in Territorial District: Where a pupil resides in a school section or separate school zone in a territorial district but not in a school division with his parent or guardian in a residence that is fifteen miles or more by road or rail from a secondary school that he is eligible to attend, an elementary school board may, in lieu of providing daily transportation to and from school under subsection 2, reimburse the parent or guardian at the end of each month for the cost of providing for such pupil board, lodging and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the secondary school that the pupil attends.

(9) Idem: Where a pupil resides in a territorial district but not in a school section, a separate school zone or a school division, with his parent or guardian in a residence that is fifteen miles or more by road or rail from a secondary school that he is eligible to attend, the board of the secondary school that he attends may reimburse the parent or guardian, at the end of each month for the cost of providing for such pupil, board, lodging, and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the secondary school that the pupil attends.

(10) Idem: Where a pupil resides with his parent or guardian in a school division in a residence that,

(a) in a territorial district is fifteen miles or more; or

(b) in a county is thirty miles or more,

by road or rail from a secondary school that he attends under section 6 or 60 or that he has a right to attend under section 62 or 43 of The Secondary Schools and Boards of Education Act (R.S.O. 1970, c.425), or where a pupil resides with his parent or guardian on an island in a school division, the board of the school division of which he is a resident pupil may, in lieu of providing daily transportation to and from the secondary school that he attends, reimburse the parent or guardian at the end of each month for the cost of providing for such pupil board, lodging and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the secondary school that the pupil attends.

(11) Boarding and Transportation of Secondary School Pupils in a Territorial District taking French Subject: Where a secondary school pupil resides in a territorial district in a school division with his parent or guardian in a residence that is fifteen miles or more by road or rail from a secondary school in which the subject of French, taught as a subject for students who normally speak the French language, is offered as one of the subjects of the courses of study, an elementary school board may reimburse the parent or guardian at the end of each month for the cost of providing for such pupil, when not so provided by the secondary school board, board lodging and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the secondary school that the pupil attends, or may furnish transportation for such pupil in lieu thereof.

(12) Boarding of Elementary School Pupils Residing in Territorial District: Where a pupil resides in a territorial district but not in a school section or a separate school zone, with his parent or guardian in a residence from which daily transportation to and from an elementary school that he may attend is impracticable due to distance or terrain, as certified by the supervisory officer of the elementary school nearest such residence, the board of the elementary school that he attends may reimburse the parent or guardian at the end of each month for the cost of providing for such pupil, board, lodging and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the elementary school that the pupil attends.

(13) Boarding of Elementary School Pupils Where Transportation Impracticable: Where a pupil resides in a school section or a separate school zone with his parent or guardian in a residence from which daily transportation to and from an elementary school that he may attend is impracticable due to distance or terrain, as certified by the supervisory officer who has jurisdiction in the school section or the separate school zone, the board of the elementary school of which he is a resident pupil may reimburse the parent or guardian at the end of each month for the cost of providing for such pupil, board, lodging and transportation once a week from his residence to school and return, in an amount set by the board for each day of attendance as certified by the principal of the elementary school that the pupil attends.

(14) Certification of Attendance: For the purpose of certifying attendance under subsections 8 to 13, the principal may add to the number of days of attendance of a pupil the number of days the pupil is absent by reason of being sick or is absent for any other cause if the principal is of the opinion that the absence was unavoidable. R.S.O. 1970, c.424, s. 42(5-14).

ONTARIO

MINISTRY OF TRANSPORTATION AND COMMUNICATIONS, ONTARIO
1972 OFFICIAL MAP PRICE LIST

SOUTHERN ONTARIO

White Print County Maps Scale 1 mile to 1 inch 60 cents each map or portion

BRANT
BRUCE (NORTH PORTION)
BRUCE (MIDDLE PORTION)
BRUCE (SOUTH PORTION)
DUFFERIN
ELGIN (EAST PORTION)
ELGIN (WEST PORTION)
ESSEX
FRONTENAC (NORTH PORTION)
FRONTENAC (SOUTH PORTION)
GREY (NORTH PORTION)
GREY (SOUTH PORTION)
HALDIMAND
HALTON
HASTINGS (NORTH PORTION)
HASTINGS (MIDDLE PORTION)
HASTINGS (SOUTH PORTION)
HURON (NORTH PORTION)
HURON (SOUTH PORTION)
KENT (NORTH PORTION)
KENT (SOUTH PORTION)
LAMBTON (NORTH PORTION)
LAMBTON (SOUTH PORTION)
LANARK (NORTH PORTION
LANARK (SOUTH PORTION)
LEEDS AND GRENVILLE (EAST PORTION)
LEEDS AND GRENVILLE (WEST PORTION)
LENNOX AND ADDINGTON (NORTH PORTION)
LENNOX AND ADDINGTON (SOUTH PORTION)
MIDDLESEX (EAST PORTION)
MIDDLESEX (WEST PORTION)
NIAGARA REGIONAL MUNICIPALITY
NORFOLK
NORTHUMBERLAND AND DURHAM (E. PORTION)
NORTHUMBERLAND AND DURHAM (W. PORTION)
ONTARIO (NORTH PORTION)
ONTARIO (SOUTH PORTION)
OTTAWA-CARLETON EAST
OTTAWA-CARLETON WEST
OXFORD
PEEL
PERTH (NORTH PORTION)
PERTH (SOUTH PORTION)
PETERBOROUGH (NORTH PORTION)
PETERBOROUGH (SOUTH PORTION)
PRESCOTT AND RUSSELL (EAST PORTION)
PRESCOTT AND RUSSELL (WEST PORTION)
PRINCE EDWARD
SIMCOE (N. WEST PORTION)
SIMCOE (N. EAST PORTION)
SIMCOE (S. WEST PORTION)
SIMCOE (S. EAST PORTION)
STORMONT, DUNDAS AND GLENGARRY (EAST)
STORMONT, DUNDAS AND GLENGARRY (WEST)
VICTORIA (NORTH PORTION)
VICTORIA (SOUTH PORTION)
WATERLOO
WELLINGTON (N. WEST PORTION)
WELLINGTON (S. EAST PORTION)
WENTWORTH
YORK (NORTH PORTION)
YORK (SOUTH PORTION)

SOUTHERN ONTARIO

White Print County and District Maps Scale 2 miles to 1 inch 60 cents each map or portion

HALIBURTON
MUSKOKA
NIPISSING SOUTH (NORTH PORTION)
NIPISSING SOUTH (SOUTH PORTION)
PARRY SOUND (NORTH PORTION)
PARRY SOUND (SOUTH PORTION)
RENFREW (N. WEST PORTION)
RENFREW (N. EAST PORTION)
RENFREW (S. WEST PORTION)
RENFREW (S. EAST PORTION)

NORTHERN ONTARIO

(FOLDED ONLY)

White Print District Maps Scale 2 miles to 1 inch.

ALGOMA	2.40	SUDBURY	NE	.60
ALGOMA CENTRAL	1.00	SUDBURY	NW	.60
COCHRANE EAST	1.60	SUDBURY	ME	.60
COCHRANE WEST	1.60	SUDBURY	MW	.60
KENORA NORTH	3.50	SUDBURY	SE	.60
KENORA SOUTH	3.50	SUDBURY	SW	.60
MANITOULIN	1.00	TIMISKAMING EAST		.60
NIPISSING NORTH (UPPER)	.60	TIMISKAMING WEST		.60
NIPISSING NORTH (LOWER)	.60	THUNDER BAY CENTRAL		2.80
RAINY RIVER E	1.00	THUNDER BAY EAST		3.50
RAINY RIVER W	1.00	THUNDER BAY WEST		4.00

LITHOGRAPHED COUNTY AND DISTRICT MAPS

Scale 4 miles to 1 inch 60¢ each. Available for Southern Ontario only.

HASTINGS
MANITOULIN
MUSKOKA and HALIBURTON
NIPISSING SOUTH
PARRY SOUND
RENFREW
SIMCOE

COMBINED COUNTIES ON ONE MAP

BRANT, ELGIN, OXFORD, MIDDLESEX
  and NORFOLK
BRUCE and GREY
OTTAWA-CARLETON, LANARK, LEEDS AND GRENVILLE
DUFFERIN, HURON, PERTH, WATERLOO
  and WELLINGTON
FRONTENAC, LENNOX-ADDINGTON,
  and PRINCE EDWARD
HALDIMAND, HALTON, PEEL, WENTWORTH
  and the Regional Municipalities of
  NIAGARA and YORK
KENT, ESSEX and LAMBTON
PETERBOROUGH, VICTORIA, NORTHUMBERLAND, DURHAM and ONTARIO
PRESCOTT and RUSSELL, STORMONT
  DUNDAS and GLENGARRY

LARGE WALL MAPS 4ft. x 6ft. each map. Separate maps of Northern and Southern Ontario.	$5.00 per copy
TRAFFIC BOOKLETS: Annual Average Daily Traffic of the Kings and Secondary Highways in Ontario. (traffic booklets temporarily out of stock)	$1.00 per copy

NOTE: When the amount for an order is under $3.00, maps are sent folded.
When the amount is $3.00 or over, the maps are rolled and sent enclosed in a tube, with the exception of Northern Ontario Maps.

For Geological maps and mining information, write to the Ontario Department of Mines, Toronto, Ontario, Canada.

For tourist and vacation information, write to the Ontario Department of Tourism and Information, Toronto, Ontario, Canada.

For topographical maps and game and fish information, write to the Ontario Department of Lands and Forests, Toronto, Ontario, Canada.

For charts (marine-navigation) write the Canadian Hydrographic Service, Hydrographic Chart Distribution, Department of Energy, Mines and Resources, 615 Booth St., Ottawa, Ontario, Canada. For navigation charts of the Rideau Canal System, write the Superintending Engineer, Rideau Canal, P.O. Box 902, Ottawa, Ontario, Canada, and for navigation charts of the Trent Canal System, write the Superintending Engineer, Trent Canal System, Department of Transport, Peterborough, Ontario, Canada, or the Canadian Hydrographic Service.

For maps of other provinces, write to the government of the province concerned or Map Distribution Office, Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, Ontario, Canada. Write to Ottawa also for aeronautical charts and other miscellaneous maps throughout Canada.

For maps of towns or villages, write to the municipal offices of the town in question. For maps of larger cities, write to one of the major oil companies.

PAYMENT MUST ACCOMPANY ORDERS FOR MAPS.
Cheques or Money Orders should be made payable to the Treasurer of Ontario.
To the price of maps add 5% Ontario Retail Sales Tax. (Ontario residents only)

NOTE: Separate township maps are no longer available.
however, townships are shown on the white print county and district maps.

Address all enquiries regarding maps to:

The Superintendent of Record Services,
Record Services Section,
Ministry of Transportation and Communications,
1201 Wilson Avenue,
Downsview 464, Ontario.

Telephone No. 248-3478

Rev. November, 1972

APPENDIX D

MINISTRY OF EDUCATION
PROCEDURES AND FORMS

MINISTRY OF EDUCATION, ONTARIO

INSTRUCTIONS RE PUPIL TRANSPORTATION FOR THE SCHOOL YEAR
JULY 1972 – JUNE 1973

1. Agreement

(1) The Ministry does not approve transportation contracts, it establishes the maximum expenditure for transportation that will be eligible for grant. The board, however, should enter into a written agreement with each operator. Form ME 314 may be used for this purpose.

(2) A board may enter into an agreement to transport resident pupils of another board providing that it recovers the total cost of transporting the pupils from the other board.

(3) A board of education may make one agreement with an operator(s) to cover the transportation of public- and secondary-school pupils.

(4) Two or more boards may jointly enter into an agreement with an operator(s) to cover the transportation of pupils.

2. Conditions of Approval of Transportation Expenditure

The transportation expenditure approved by the Minister, to which reference is made in paragraph 45(iii) of section 1 of the 1972 General Legislative Grants Regulation will be determined in accordance with these instructions.

Expenditure for transportation is approved for General Legislative Grant purposes provided,

(1) that the operator meets in all respects the requirements of The Highway Traffic Act, The Public Vehicles Act, and the Regulations thereunder,

(2) that the board has received proof of each driver having had a tuberculin test and, where required, a chest x-ray examination within the past two years,

(3) that the parents or guardians of resident pupils have not contributed, except by taxation, for transportation either to the school board or to the bus operator, and

(4) that each motor vehicle used is a passenger car, station wagon, bus, or other means of transportation, such as a boat or snowmobile, which has been designed and built by the manufacturer for the conveyance of passengers.

3. Maximum Expenditure Eligible for Grant

A. Home-School Bus Transportation – Regular Day School

(1) Basic Per Diem School Bus Approval Amount

SEATING CAPACITY*	PER DIEM RATE CONTRACT BUSES	PER DIEM RATE BD. OWNED OR LEASED BUSES
0 – 5 passengers	7.50	7.50
6 – 10 "	9.00	9.00
11 – 18 "	15.00	15.00
19 – 24 "	25.00	20.00
25 – 30 "	26.50	21.20
31 – 36 "	28.00	22.40
37 – 42 "	29.50	23.40
43 – 48 "	31.00	24.80
49 – 54 "	32.50	26.00
55 – 60 "	34.00	27.20
61 – 66 "	35.50	28.40
67 – 72 "	37.00	29.60
73 – 78 "	37.50	30.00
79 & Over "	38.00	30.40

The above rates provide for administration expenditure incurred by school boards.
*Seating Capacity – See Item 4(5).

(2) Maximum Daily Expenditure Eligible for Grant

(i) Where pupils live in the counties or defined cities the maximum daily expenditure eligible for grant is as follows:

(a) the sum of the basic per diem approval amounts shown in Item (1) that relate to the buses used to provide daily transportation for resident pupils (combined elementary and secondary) to and from school (excluding vehicles used as spares), plus

(b) the product of 40 cents, and the excess of the total daily miles travelled by the buses included in (a) over the product of 60 and the number of buses included in (a), and

(c) adjusted where applicable by the "weighted school bus occupancy ratio" (see Item 4(7)). Where the ratio is less than 1., the maximum approval is to be reduced by multiplying the sum of (a) and (b) by such ratio. Where the ratio is between 1 and 1.1, there is to be no adjustment. Where the ratio is greater than 1.1, the maximum approval is to be increased by multiplying the sum of (a) and (b) by the sum of 1. plus 1/5 of the excess of the ratio over 1.1.

(ii) Where there is an arrangement for the sharing of a school bus service (simultaneous transportation on a bus of the pupils who are the responsibility of two or more boards, or a board and the Ministry, Canada or a private school), the amounts described in item (i) to be included in the calculation of the maximum daily expenditure of a board eligible for grant are to be proportionate to the percentage of the cost of the bus service borne by the board. This percentage is to be applied to the seating capacity of the vehicle, to the basic per diem vehicle approval amount, to the total daily miles travelled by the vehicle and to the 60 daily miles used in determining the basic per diem vehicle approved amount.

(iii) The maximum daily expenditure eligible for grant for a board whose jurisdiction is within a territorial district or a provisional county is 115% of the amount calculated under (i) and (ii). Where only part of a board's jurisdiction is in a territorial district (or in a provisional county), the maximum daily expenditure eligible for grant calculated under (i) and (ii) is to be increased by the proportion of 15% that the number of territorial district (or provisional county) pupils transported is to the total number of pupils transported by the board.

(3) The determination of the number of pupils transported, the vehicles used and the daily miles travelled by the vehicles is to be based on the service provided as of October 31, 1972.

(4) Maximum expenditure eligible for grant during the school year is to be based on 80 days for the September to December term and 120 days for the January to June term.

B. Transportation of Handicapped and Trainable Retarded Pupils

Where school bus vehicles are provided exclusively for the transportation of pupils who for physical, mental or emotional reasons, are unable to use regular transportation and for whom the board has medical certification that regular transportation is not adequate, the maximum expenditures eligible for grant, except where Item H applies, will be determined as follows:

(1) Where home-school transportation is provided on a daily basis throughout the school year, the vehicles, daily miles travelled, and pupils transported are to be included in the calculation of regular daily home-school transportation expenditure eligible for grant (Item 3A).

(2) Where home-school transportation is provided for periods of less than the school year and/or where school-to-school transportation is provided, the expenditure will be approved up to a maximum per diem amount of $7.50 per vehicle used.

C. Summer School Transportation

In respect of transportation to summer schools operated in 1972, the maximum pupil transportation expenditure eligible for grant will be calculated in the manner applicable to the year 1971. It is intended that in the future, the maximum approved for summer school transportation will be separately calculated in a manner comparable to that described in Item A for regular day school transportation.

D. School-To-School Transportation of Clasaes on School Buses

Where classes are transported from school-to-school as defined in Item 4(1) of these Instructions, the maximum eligible for grant is the product of 80 cents and the number of trip miles as defined in Item 4(4), or $7.00 per trip, whichever is the greater.

E. Public Transit

Where pupils are transported by public transit to and from home in respect of regular day school or from school-to-school for the courses specified in Item 4(1), the maximum expenditure per day eligible for grant, for each type of transportation, is the product of 35 cents and the number of pupils transported by public transit per day.

F. Transportation of Pupils to Ontario Schools for Deaf or Blind

Expenditure for transportation of a pupil to and from his home and an Ontario School for the Deaf or the Blind by the most economical means of transportation, is approved for grant purposes in respect of the trips provided that have been authorized by the superintendent of the school in which the pupil is enrolled, up to the following maximum amounts:

(1) Where a commercial public transportation vehicle (air, rail or bus, excluding taxis) is used, the economy (standard) fare.

(2) Where a contracted or board owned vehicle is used for transportation to or from the pupil's home and the school, to and from the pupil's home, or the school and the public carrier depot, 50 cents per loaded mile for a car, station wagon or van (up to 18 seats) and 80 cents per loaded mile for a bus with a seating capacity in excess of 18. If the vehicle is shared with other boards, the approval is to be proportioned in the same manner as the cost.

G. Board, Lodging and Transportation Once a Week

Expenditure for board, lodging and transportation once a week of pupils made in accordance with subsections 8 to 14 of section 42 and The Schools Administration Act or subsections 1 to 3 of section 79 of The Secondary Schools and Boards of Education Act, is eligible for grant up to the per diem maximum provided in the General Legislative Grants Regulation for the year in which the expenditure is made.

H. Special Approvals in Respect of Handicapped and Trainable Retarded Pupil Transportation and Abnormal Modes of Transportation

Where special circumstances exist which require expenditure in excess of the regular approval maximums for the transportation of a handicapped pupil or in respect of any pupil where normal modes of transportation are not feasible (e.g. snowmobile or boat required), the Ministry, upon request, will review the situation and determine the maximum expenditure eligible for General Legislative Grant.

I. Purchase of a School Bus—Maximum Expenditure Eligible for Grant

(1) In determining the amount eligible for General Legislative Grant when a new bus is purchased, the depreciated value (based on a 7-year life) of the bus that is disposed of is deducted from the lesser of the gross cost and an amount equal to $165 (effective July 1, 1972) multiplied by the seating capacity of the bus. For purposes of determining the maximum cost eligible for grant, the seating capacity is calculated on the basis of thirteen inches of seating per pupil. Where a bus is purchased by means of a debenture issue, tenders stating the specifications of the vehicle are to be called.

(2) Form ME 309 is to be completed to obtain approval of the expenditure for purposes of General Legislative Grant.

(3) The term of a debenture issued for the purchase of a bus is not to exceed five years.

4. Definitions

(1) "School-to-school transportation of classes" means transportation on a regular basis (i.e. weekly or at least once during each cycle) of classes of pupils from one school to another for a course of study in home economics, industrial arts or computer science, and to December 31, 1972, transportation to a natural science school that is owned by a board. (See amendment - Ministry of Education memo 1972:B 20)

(2) "School-to-school transportation of handicapped pupils" refers to transportation for a handicapped pupil from one school to another or to any of the following:

(a) an Ontario School for the Blind,
(b) an Ontario School for the Deaf,
(c) an Ontario Hospital School, and
(d) a children's mental health centre established under "The Children's Mental Health Centres Act".

(3) "Daily mileage" for Home-School transportation means the daily miles travelled by a school bus, in transporting pupils to and from school, that is equal to the sum of the distance travelled from the point of first pick-up to the point of last drop-off and the shortest distance from the point of last drop-off back to the point of first pick-up in respect of each regular daily trip.

(4) "Trip miles", with respect to school-to-school transportation (item (1)), means the return distance among the schools by the shortest route.

(5) "Seating capacity" of a school bus is to be determined by dividing the total bench space of a bus by 13" except that the seating capacity for vehicles other than buses will be as follows:

Cars – 4 pupils
Station Wagons – 7 pupils
Vans – Manufacturer's ratings less driver

(6) The term "school bus" where used in these Instructions means all wheeled road vehicles owned or under contract by a board and used for the transportation of pupils and includes automobiles, station wagons and vans.

(7) "Weighted school bus occupancy ratio" is the relationship correct to three decimal places that the number of pupils transported to and from school on a regular daily basis bears to the total seating capacity of all contracted and board owned buses used in the transportation of the pupils except that:

(a) grade 7 to 13 pupils and trainable retarded pupils are to have a weighting factor of 1.15,
(b) the effective seating capacity of all vehicles is to be 95%, and
(c) where vehicles are shared, the seating capacity is to be prorated in accordance with the ratio of cost borne by the board.

5. Apportionment of Cost and Maximum Expenditure Eligible for Grant by Boards of Education

(1) Transportation expenditure pertaining solely to elementary-school pupils is to be charged to the elementary panel. Expenditure pertaining solely to secondary-school or trainable retarded pupils is to be charged to the secondary panel. Transportation expenditure pertaining to both elementary and secondary or trainable retarded pupils is to be apportioned on the basis of the ratio of weighted pupils transported for each panel in the vehicle(s) concerned. The weighting referred to is 1.15 for each pupil enrolled in grades 7 to 13 and for trainable retarded pupils.

(2) The maximum expenditure eligible for grant is to be apportioned between the elementary and secondary panels of a board of education in the same ratio that the expenditure is charged to each panel. Where apportionment of the maximum expenditure eligible for grant to the panels is made in some other manner, it will be subject to the approval of the Ministry.

6. Expenditure Eligible for Grant

The amount of transportation expenditure eligible for General Legislative Grant is the lesser of the maximum expenditure eligible for grant and the actual expenditure of the board (or panel in the case of a Board of Education). This will be determined for each of the periods July to December and January to June, and will be determined separately for Home-School Pupil Transportation, School to School Transportation, Transportation of Pupils to Ontario School for the Deaf or the Blind and for Board, Lodging and Weekly Transportation.

7. School Bus Route Maps

Where the average daily mileage of all school buses employed in home-school transportation of pupils exceeds 60, [resulting in an increase in the maximum expenditure eligible for grant as determined by Item 3 A(2)(b) of these Instructions], the Ministry requires that maps of all school bus routes, identified as to scale, accompany the forms used for grant approval.

8. Reimbursement of Non-Resident Pupil Transportation Costs by The Minister

Transportation expenditure that is eligible for reimbursement by the Minister on account of pupils as defined in sections 5 or 9(b) of Regulation: Reimbursement for Cost of Education in Territorial Districts or Crown Lands (Regulation 202, as amended) is to be determined by multiplying the lesser of,

(a) the transportation cost in respect of the bus upon which such a pupil rides, and
(b) the approval in respect of that bus,

such approval being the product of 80 days, if for the September-December period [120 days, if for the January-June period], and the sum of the basic per diem rate [per Schedule in Item 3A(1)], and 40 cents per each mile in excess of 60, of daily mileage [Item 4(3)],

by the proportion that such pupil (weighted to 1.15 if enrolled in Grade 7 or higher) is to the total number of weighted pupils transported on such bus.

Summer school 1972 transportation is approved in the manner applicable to 1971.

9. Notes for School Boards

(1) The board is advised to keep a record of the drivers and vehicles except where transportation is arranged by the payment of fares.

Driver–Name, address, phone, date of x-ray, number of endorsed chauffeur's licence and salary, if driver is employed by the board.

Vehicle–Make, model, year, seating capacity, vehicle licence number, school bus licence number, amount of liability insurance carried, dates of examination for mechanical fitness (certificate required before August 31 and December 31 of each year) and name of examiner.

(2) The privilege of operating a new school bus route and the transfer of that privilege to another operator is regulated by the Ontario Highway Transport Board. Therefore, a school board should reconsider each of its Transportation Agreements not later than June 30th each year and provide for any necessary change in the operation for the next school year.

(3) The school board should take an active interest in safety. This includes the condition of the vehicles, the reliability of the operator, and the discipline of the pupils. The board and the operator should be familiar with The Public Vehicles Act and the Regulation thereunder.

(4) Every pupil is responsible to the principal for his conduct on the school premises or while travelling on a school bus that is owned by or under contract to the board. [Section 37(5) of Ontario Regulation 191 (R.R.O. 1970) made under The Ministry of Education Act.]

(5) Every possible effort is to be made to arrange daily routes so that a pupil,

(a) will be picked up as near to school opening time as possible,
(b) will arrive home as soon after school closing time as possible,
(c) will not be required to walk more than one mile to the bus, and
(d) will not ride more than twenty-five miles from his home to school.

(6) A school board is advised to secure liability insurance because it is possible that a board may be charged as a master if the court considers that the operator of the vehicle is acting as a servant of the board and an accident occurs in which a pupil is injured on the way to or from school. Where such an accident occurs, a board is advised to require within 24 hours from the bus operator involved, a written statement giving full particulars of the accident.

FORMS

FORM NO.	TITLE	COMPLETED BY	RECIPIENT	DATE REQUIRED (on or before)
ME 301	**Principal's Report on Transportation of Pupils**	**School**	**Board Offices** Regional Business Administrator	October 31, 1972 December 15, 1972 (1)
ME 302	**Summary of Resident Pupil Transportation (Summary of Principal's Reports)**	**Board**	Regional Business Administrator	December 15, 1972
ME 303	**Vehicle Information, Transportation of Pupils**	**Board**	**Regional Business Administrator**	December 15, 1972
ME 304	Calculation of Maximum Expenditure Eligible for Grant – Home-School Bus Transportation of Resident Pupils	Board ~~School~~	Regional Business Administrator	December 15, 1972
ME 305	**Estimate of Pupil Transportation Expenditure, 1972-73**	**Board**	Regional Business Administrator	December 15, 1972
Required only where Applicable:				
ME 306	Calculation of Maximum Expenditure Eligible for Grant – In Respect of Public Transit Fares	Board	Regional Business Administrator	December 15, 1972
ME 307	Calculation of Maximum Expenditure Eligible for Grant – Vehicles Employed for the Transportation of Handicapped Pupils	Board	Regional Business Administrator	January 15, 1973 July 15, 1973 (2)
ME 308	Calculation of Maximum Expenditure Eligible for grant – In Respect of School-to-School Transportation of Classes	Board	Regional Business Administrator	December 15, 1972
ME 309	Adjustment for Legislative Grant Purposes in Respect of the Purchase and/or Disposal of a School Vehicle	Board	Regional Business Administrator	As required
ME 310	Application for Approval for Grant or Reimbursement Re. Board, Lodging or Transportation Once a Week	Board	Regional Business Administrator	January 15, 1973 July 15, 1973 (3)
T10	Report on Summer School Transportation, 1972	Board	Regional Business Administrator	December 15, 1972
Ontario Schools for the Deaf and the Blind Only:				
ME 311	Report of Superintendent of The Ontario School for the Deaf or the Blind	School	Board and Regional Business Administrator	October 31, 1972
ME 312	Calculation of Maximum Expenditure Eligible for Grant In Respect of Pupils Enrolled in Ontario Schools for the Deaf and the Blind – Via Public Transportation	Board	Regional Business Administrator	December 15, 1972
ME 313	Calculation of Maximum Expenditure Eligible for Grant In Respect of Pupils Enrolled in Ontario Schools for the Deaf and the Blind - Via Contracted or Board Owned Vehicles	Board	Regional Business Administrator	December 15, 1972
Other Forms				
ME 314	Agreement for Transportation	Board	N/A	N/A
ME 315	Application for Reimbursement for Cost of Transporting Non-Resident Pupils	Board	Regional Business Administrator	January 15, 1973 July 15, 1973 (3)

(1) Copies of Form ME 301 are to be forwarded to the Regional Business Administrator along with the summary, Form ME 302.

(2) A separate completion of Form ME 307 will be needed for the periods September-December 1972 and January-June 1973. The respective forwarding dates are January 15, 1973 and July 15, 1973.

(3) Applications in respect to the July-December 1972 period are required on or before January 15, 1973 and for the January-June 1973 period, on or before July 15, 1973.

Form ME 300 (7/72)

MINISTRY OF EDUCATION, ONTARIO

PRINCIPAL'S REPORT
ON
TRANSPORTATION OF PUPILS

Regular Day School 1972-73

This form, [illegible] respect to pupils enrolled in the school, is to be completed as of October 31, 1972 by the school principal and is to be forwarded to the board offices to be summarized on Form ME302.

NAME OF BOARD : ABC District Board of Education
NAME OF SCHOOL : Modern Elementary School
LOCATION OF SCHOOL : No. 00, Any Street, Any Town
TOTAL ENROLMENT : 375

1. Record hereunder the number of pupils for whom daily home-school transportation is provided by the board. Exclude pupils for whom transportation is being provided for a period of less than the full school year, e.g. temporary transportation of a handicapped pupil. A pupil should be recorded once only.

	School Bus Transportation (b)			Public Transit	
	Grades K–6	Grades 7–8 Public 7–10 RCSS	Grades 9–13 Public Trainable Retarded	Elem.	Sec.
Resident Pupils	100	20		100	
Non-Resident Pupils (a)	▨	▨	▨	▨	▨
1. Neighbor Bd. of Ed.	12	4			
2.					
3.					
4. Gov. of Canada	2				
5. Gov. of Ontario		2			

(a) List by name of board of which the pupils are resident
(b) School bus transportation includes automobiles and taxis

2. Record hereunder in respect of school-to-school transportation of classes of pupils for instruction in Home Economics, Industrial Arts or Computer Science on a regular basis (i.e. weekly or at least once during each cycle) and during the period up to December 31, 1972, transportation from school to a natural science school owned by a board:

(A) the number of programmed class trips (c) via school bus of pupils enrolled in this school;
(B) the number of pupil trips (c) to be provided via public transit fares.

PERIOD	Class Trips via School Bus		Pupil Trips via Public Transit	
	Elementary	Secondary	Elementary	Secondary
September-December 1972	16		320	
January-June 1973	24		480	

(c) A trip is defined as from school to school and return.

To the best of my knowledge and belief, the above information is correct.

Date

Principal

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD A.B.C. District Board of Education

REGION 00

1

SUMMARY OF RESIDENT PUPIL TRANSPORTATION
(Summary of Principal's Reports Form ME 301)

Regular Day School 1972-73

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6	Col. 7	Col. 8	Col. 9	Col. 10	Col. 11	Col. 12	Col. 13	Col. 14
NAME OF SCHOOL	REGULAR DAILY HOME-SCHOOL TRANSPORTATION OF PUPILS					SCHOOL TO SCHOOL TRANSPORTATION OF CLASSES							
	School Bus Transportation			Public Transit		Class Trips Via School Bus				Pupils Trips Via Public Transit			
						Sept Dec 1972		Jan June 1973		Sept Dec 1972		Jan June 1973	
	Grades K-6	Grades 7-8 Public 7-10 RCSS	Grades 9-13 Public Trainable Retarded	Elem.	Sec.	Elem.	Sec.	Elem.	Sec	Elem.	Sec	Elem	Sec
Modern Elementary School	100	20		100		16		24		320		460	
Advanced Secondary School			400		50		32		48				
ABC School for Retarded Children			20										
↓													
ETCETERA													
TOTALS*	1,500	500	1,200	300	200	176	352	264	528	900	800	1,500	1,200

*Totals need only be provided on the final page of the report.

Date

Chief Executive Officer

MINISTRY OF EDUCATION, ONTARIO

Page ______ of 1 Pages

VEHICLE INFORMATION
TRANSPORTATION OF PUPILS

Regular Day School, Home-School Transportation 1972-73

NAME OF BOARD A.B.C. District Board of Education

REGION 00

Col. 1 P.V. Licence Number	Col. 2 Name of Operator (where Board is operator, show name of Board)	Col. 3 Seating Capacity	Col. 4 Daily Miles	Col. 5 Basic Daily Approval Rate	Col. 6 % of the Vehicle Cost Borne by the Board	Col. 7 Name of Board(s) or Others that Use of the Vehicle is Shared with	Col. 8 Prorated Seating Capacity Col. 6 x Col. 3	Col. 9 Prorated Basic Daily Approval Col. 6 x Col. 5	Col. 10 Prorated Daily Miles Col. 6 x Col. 4	Col. 11 Prorated Miles in Basic Approval Col. 6 x 60
(1) (2)		(3)	(4)	(5)	(6)					
V 2345	Z Bus Company	60	70	$34.00	100		60	34.00	70	60
V 5431	ABC Board of Education	66	45	28.40	75	ABC District RCSS Board	49.5	21.30	33.8	45
V 1234	Y Bus Company	54	75	32.50	92.46	Ministry of Education	49.9	30.05	69.3	55.5
	A Taxi Co. (10 cars)	40	90	10 x 7.50 = 75.00	100		40	75.00	90.	600.
	↓ ETCETERA									
(Totals) (7)	No. of Vehicles 60	▨	▨	▨	▨	▨	3090	1800	3000	3600

NOTES:
(1) Include only vehicles that are employed in the transportation of pupils to and from regular day school and the pupil's home throughout the school year.
(2) The vehicles identified as to P.V. number and seating capacity are those that the operator designates as assigned to a contract or route(s). Vehicles used as spares or replacements are excluded from this report.
(3) The seating capacity of school buses is determined on the basis of 13" of bench space per seat, the seating capacity of vans is the manufacturer's rating, cars are rated at 4, station wagons are rated at 7.
(4) Daily miles is determined as the distance from point of first pick-up to point of last drop-off and return, to point of first pick-up by shortest route in respect to each daily trip.
(5) The basic daily approval rates are shown in Item 3 A(ii) of Form ME 300 entitled Instructions Re Pupil Transportation.
(6) Where the use of a vehicle is shared with another board(s), the Minister, Canada or a private school, enter the percentage of the vehicle cost borne by the board completing this report; where the vehicle is used solely by the board completing this report, enter 100%.
(7) Totals need only be provided on the final page of the report

____
Date

____
Chief Executive Officer

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD ABC District Board of Education REGION 00

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT HOME-SCHOOL BUS TRANSPORTATION OF RESIDENT PUPILS

Regular Day School 1972-73

1. Basic Daily Approval Amount (Form ME 303, Col. 9) $ 1,800

2. Additional Mileage Approval Amount
(3,000 (Total Daily Miles (Form ME 303, Col. 10)) − 3,500 (Miles in Basic Daily Approval (Form ME 303, Col. 11))) X .40 $ Nil (cannot be negative)

3. Total of Items 1 and 2 $ 1,800

4. Increase Factor for Territorial Districts and Provisional Counties
$\left(\frac{\text{Transported Pupils Residing in T.D. or P.C.}}{\text{Total Pupils Transported}} \text{ X .15}\right) + 1.$ $\frac{3200}{3200}$ x .15 + 1 = 1.15 (2 places of decimals)

5. Item 3 1,800 x Item 4 1.15 = $ 2,070.00

6. Weighted School Bus Occupancy Ratio

(a) Weighted Pupils Transported (calculate to nearest whole figure)

	No. of Pupils		Weighting	
(1) Grades K-6 (Form ME 302, Col. 2)	1,500	x	1.00	1,500
(2) Grades 7-8 Public, 7-10 RCSS (Form ME 302, Col. 3)	500	x	1.15	575
(3) Grades 9-13 Public and Trainable Retarded (Form ME 302, Col. 4)	1,200	x	1.15	1,380
(4) Total				3,455

(b) Vehicle Seating Capacity Used (Form ME 303, Col. 8) 3,090

(c) Weighted School Bus Occupancy Ratio
Item (a) (4) 3,455 ÷ (Item (b) 3,090 X .95) = 1.177 (3 places of decimals)

7. Maximum Daily Recognized Expenditure

(a) Where Item 6(c) is between 1.00 and 1.10, enter Item 5 $ ______

(b) Where Item 6(c) is less than 1.00, Item 5 ____ x Item 6(c) ____ = $ ______

(c) Where Item 6(c) is greater than 1.10,
$\left(\frac{\text{Item 6(c) } 1.177 - 1.10}{5} + 1.00\right)$ x Item 5 2070. = $ 2,101.88

8. Maximum Expenditure Eligible for Grant

(a) September - December 1972 = Item 7 2101.88 x 80 days = $ 168,150.

(b) January - June 1973 = Item 7 2101.88 x 120 days = $ 252,226.

9. For Boards of Education

Estimated Apportionment of Maximum Expenditure Eligible for Grant
As calculated above to elementary and secondary panels

		Elementary	*Secondary*	*Total*
(1)	September-December 1972	$ 100,890.	$ 67,260.	$ 168,150.
(2)	January-June 1973	151,336.	100,890.	252,226.
(3)	Total	$ 252,226.	$ 168,150.	$ 420,376.
(4)	%	60	40	100

Date

Chief Executive Officer

Form ME304 (7/72)

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD A.B.C. District Board of Education REGION 00

ESTIMATE OF RESIDENT PUPIL TRANSPORTATION EXPENDITURE

1972-73

TYPE OF TRANSPORTATION EXPENDITURE	PERIOD JULY-DECEMBER 1972		PERIOD JANUARY-JUNE 1973	
	ELEM.	SEC.	ELEM.	SEC.
Administration	2,500	2,500	2,500	2,500
Home-School Pupil Transportation				
Regular day school bus transportation	100,000	60,000	150,000	90,000
Regular day school public transit fares	7,200	4,800	10,800	7,200
Summer school transportation		1,500		
Total	107,200	66,300	160,800	97,200
Sub-Total	109,700	68,800	163,300	99,700
School-To-School Transportation				
School bus transportation	1,700	7,500	2,500	11,000
Public transit fares	270	240	450	360
Total	1,970	7,740	2,950	11,360
Transportation of Pupils to The Ontario Schools for the Deaf and the Blind	500	220	800	355
Board, Lodging and Transportation Once Per Week	900	1,200	1,300	1,800
Other Pupil Transportation	200	500	300	800
Totals for Panels	113,270	78,460	168,650	114,015
Totals for Period	191,730		282,665	
TOTAL FOR SCHOOL YEAR		474,395		

Date

CHIEF EXECUTIVE OFFICER

Form ME 305 ([illegible]/72)

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD ABC District Bd.of Ed
REGION 00

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT IN RESPECT OF PUPIL PUBLIC TRANSIT FARES

Regular Day School 1972-73

	Period September to December 1972		*Period January to June 1973*	
	Elementary	*Secondary*	*Elementary*	*Secondary*
A. Home-School Transportation				
1. Number of pupil days for which Home-School Transportation is to be provided [1]	24,000	16,000	36,000	24,000
2. Maximum expenditure eligible for grant (Item 1 x the lesser of 35¢ and the Board's daily cost of fares which is 30¢)	$ 7,200	$ 4,800	$ 10,800	$ 7,200
B. School To School Transportation[2]				
1. Number of pupil trips[3] to be provided (Form ME302, Cols. 11-14)	900	800	1,500	1,200
2. Maximum expenditure eligible for grant (Item 1 x the lesser of 35¢ and the Board's cost of two-way fare)	$ 270.	$ 240.	$ 450.	$ 360.

(1) The number of pupil days is determined by multiplying the total number of pupils as shown in Col. 5 or 6 of Form ME302 by the number of days the schools will be open for each period.

(2) School-to-school transportation is defined as the transportation of a class of pupils from a school to another school on a regular basis (i.e. weekly or at least once during each cycle) for the purpose of instruction in a course of study in Home Economics, Industrial Arts or Computer Science and for the period up to December 31, 1972 includes transportation from school to a natural science school owned by a board. In respect to handicapped pupils, school-to-school transportation refers to transportation from school to another school or to the Ontario School for the Deaf or the Blind or to an Ontario Hospital School, or to a children's mental health centre established under "The Children's Mental Health Centres Act".

(3) A pupil trip is defined as from school to school and return.

Date

Chief Executive Officer

Form ME306 (7/72)

MINISTRY OF EDUCATION, ONTARIO

Page 1
of 1 Pages

NAME OF BOARD ABC District Bd. of Ed. ☒ Elementary
☐ Secondary

REGION 00

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT
VEHICLES EMPLOYED FOR THE TRANSPORTATION OF HANDICAPPED PUPILS(1)
IN RESPECT TO

TRANSPORTATION PURPOSE:	PERIOD:
☒ Home-School Transportation for Periods of less than the School Year ☐ School-to-School Transportation(2)	☒ September-December 1972 ☐ January-June 1973

Regular Day School 1972-73

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6
Vehicle No.	Type of Vehicle	No. of Days Employed	Col. 3 X $7.50	Board's Cost	Maximum Eligible for Grant Lesser of Col. 4 and Col. 5
			$	$	$
1	Station Wagon	70	525	420	420
2 ↓ ETCETERA	Taxi	66	495	528	495
TOTALS(3)	▨		$ 7,200	$ 7,500	$ 7,000

(1) Includes pupils who for physical, mental or emotional reasons, are unable to use the regular transportation and for whom the board has medical certification that regular transportation is not adequate.

(2) School-to-school transportation refers to transportation of a handicapped pupil from school to another school or to the Ontario School for the Deaf or Blind, or to an Ontario Hospital School, or to a children's mental health centre established under "The Children's Mental Health Centres Act".

(3) Totals need only be provided on the final page of the report.

Date

Chief Executive Officer

Form ME307 (7/72)

MINISTRY OF EDUCATION, ONTARIO

A.B.C. District Board of Education
NAME OF BOARD
00
REGION

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT
IN RESPECT OF
SCHOOL-TO-SCHOOL TRANSPORTATION OF CLASSES[1]
BY SCHOOL BUS
1972-73

☒ Elementary
☐ Secondary

Page 1 of 1 Pages

School from which pupils are transported	School to which pupils are transported	Subject(s) taught	Trip Miles[2]	Trip Miles x 80 cents	Greater of Col. 5 & $7.00	No. of Trips Sept.-Dec./72 (Form ME 302, Col. 7 or 8)	No. of Trips Jan.-June/73 (Form ME 302, Col. 9 or 10)	Maximum Exp. for Grant Purposes	
								Sept.-Dec. 72 Col. 6 x Col. 7	Jan.-June/73 Col. 6 x Col. 8
1	2	3	4	5	6	7	8	9	10
Modern Elementary School ↓ **ETCETERA**	**Another Elementary School**	**Industrial Arts**	12	9.60	9.60	16	24	153.60	230.40
					TOTALS[3]	176	264	1,760.00	2,640.00

Note: (1) "School-to-School Transportation of Classes" means transportation of a class of pupils from a school to another school on a regular basis (i.e. weekly or at least once during each cycle) for a course of study in Home Economics, Industrial Arts or Computer Science and for the period up to December 31, 1972 includes transportation of pupils from school to a natural science school owned by a board. (See amendment - Ministry of Education memo 1972: B20.)

(2) "Trips Miles" means the return distance between (or among) school by the shortest route.

(3) Totals need only be provided on the final page of the report.

Date

Chief Executive Officer

MINISTRY OF EDUCATION, ONTARIO

ADJUSTMENT FOR LEGISLATIVE GRANT PURPOSES
IN RESPECT OF THE PURCHASE AND/OR
DISPOSAL OF A SCHOOL VEHICLE

(see directions on reverse side)

☐ FOR USE OF MINISTRY

BOARD ABC District Board of Education REGION 00 ELEMENTARY ☒ SECONDARY ☐

1. PARTICULARS OF VEHICLES

To be Sold or Traded

(1)	Make and Year	Y Co. Ltd. 1967	(3)	Item (2) x $165 x* $\frac{2}{7}$ = $	2,548
(2)	Seating Capacity (Note 2)	54	(4)	Selling Price or Trade-in Allowance $	2,800

To be Purchased

(5)	Make and Year	Y Co. Ltd. 1972	(9)	Purchase Price (Note 3) $	9,500
(6)	New or Used	New	(10)	From Revenue Funds, OR $	700
(7)	Seating Capacity (Note 2)	54	(11)	(a) From Debenture Funds $	6,000
(8)	Item (7) x $165 x* $\frac{7}{7}$ = $	8,910		(b) By-Law Number (If Known)	K-157
			(12)	Date of Purchase (month and year)	August, 1972

* In the case of a disposal or of a purchase of a used vehicle, insert the excess of 7 over the number of years use since new.

2. (1) From whom is the vehicle being purchased? Any dealership

(2) Were tenders called? Yes ☒ No ☐

(3) Was the lowest tender accepted? Yes If not state lowest tender price and reason for non-acceptance

3. CERTIFICATION OF CHIEF EXECUTIVE OFFICER

I hereby certify that in my opinion the information contained in this Form is correct and the vehicle is required for the transportation of pupils.

Date ____________ Signature ____________

FOR USE OF MINISTRY

4. APPROVAL FOR GENERAL LEGISLATIVE GRANT PURPOSES

(1) Lesser of Item 1(8) and 1(9) $________

(2) Item 1(3) $________

(3) Item 4(1) less Item 4(2) (Can be Negative) $________

(4) Approval for General Legislative Grant purposes of the expenditure in the year ____ (year of purchase) for the school bus described above is given in the amount of $ ______ (Item 4(3)). The maximum allocation for education capital aid debenturing for this project is $ ____________.

Date ____________ ____________
Regional Business Administrator

Form ME 309 (7/72)

DIRECTIONS

1. Where school vehicles are purchased or sold, this Form is to be prepared in quadruplicate and three copies forwarded to the Regional Business Administrator. One copy will be returned to the Board.
2. For purposes of determining the maximum cost eligible for grant, the seating capacity is calculated at thirteen inches of seating per pupil.
3. The amount to be shown in Item 1(9) is the Gross Cost before adjustment for trade-in allowance.
4. Where the transaction involves more than one vehicle and prices are not the same for all vehicles sold or for all vehicles purchased, the adjustment must be calculated separately for each vehicle and copy of such calculation attached to this Form.

IF PURCHASE IS TO BE FINANCED BY DEBENTURE ISSUE

5. This Form is to be submitted to the Regional Business Administrator for allocation of Debenture Funds.
6. The term of a debenture issued for the purchase of school vehicles is not to exceed five years.
7. Upon receipt of Ministry of Education approval, the School Board shall make application for approval by the Ontario Municipal Board.
8. No commitment to purchase vehicles should be made without the prior approval of the Ontario Municipal Board.

July 1, 1972

Form ME309 (7/72)

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD ABC District Board of Education REGION 00

APPLICATION FOR APPROVAL FOR GRANT OR REIMBURSEMENT

Re: Board, Lodging, and Transportation Once a Week

Page 1 of 1

Where more than one entry is applicable in any of rectangles 1, 2 and 3, a separate Application is to be prepared

PERIOD
1.
July to Dec. ☒
or
Jan. to June ☐
1972

TYPE OF BOARD
2.
Public ☒
or
Separate ☐
or
Secondary ☐

TYPE OF APPLICATION
3.
RESIDENT Pupil Grant Approval ☒
NON-RESIDENT Pupil Reimbursement Application ☐

SEE DIRECTIONS ON REVERSE

(1) NAME OF PUPIL	(2) HOME ADDRESS OF PUPIL	(3) SCHOOL ATTENDED	(4) MILEAGE PUPIL'S HOME TO SCHOOL	(5) TOTAL DAYS ATTENDANCE	(6) TOTAL AMOUNT REIMBURSED	(7) MAXIMUM AMOUNT ELIGIBLE PER DAY*	(8) MAXIMUM AMOUNT ELIGIBLE PER PERIOD Col. 5 × Col. 7	(9) APPROVED FOR GRANT OR REIMBURSEMENT LESSER OF Col. 6 & Col. 8
Jane Brown	Byway RR2	Modern Public Sch.	35	78	340	4.25	332	332
Tom Green	Byway RR1	Modern Public Sch.	19	60	240	4.25	255	240
Willie Turner	Hiroad RR3	Another Public Sch.	16	80	340	4.25	340	340
TOTALS				218	$ 920			$ 912

*As provided in the General Legislative Grant regulations

CERTIFICATE

The expenditure for board, lodging, and weekly transportation for the above-named pupil has been made in accordance with the provisions of subsections 8 to 14 of section 42 of The Schools Administration Act or of subsections 1 to 3 of section 79 of The Secondary Schools and Boards of Education Act and supporting documents are on file in the Board's offices.

DATE ____________ Signature of: ____________
Secretary-Treasurer
Director of Education
Superintendent of Separate Schools

APPROVED

____________ Signature of: ____________
Regional Business Administrator

DIRECTIONS

1. **Separate applications**, in duplicate, are to be completed for the periods September to December and **January** to June by the school board that has reimbursed the parent or guardian.

2. **For the purpose** of this application,
   - **(a)** **resident pupils** are those for whom the board provides education in its own schools or by payment of a fee and, in the case of an elementary-school board, those secondary-school pupils **resident** in the school section or separate school zone;
   - **(b)** **non-resident** pupils are those whose education is the responsibility of the province.

3. **It is the responsibility** of the board to establish procedures for the verification of the days of attendance **of the pupils** and of the expenditure of the parent or guardian for board, lodging and weekly transportation of the pupil. Documentary evidence is to be retained available for audit.

4. **If payment** is made to a person other than the parent or guardian of the pupil, the board should obtain **an authorization** signed by the parent or guardian.

5. **Where** the application consists of more than one page, column totals are to be carried forward to the **succeeding page** and the Certificate completed on the last page only.

6. **The original** copy of this application is to be forwarded to the Regional Business Administrator.

September/72

FORM ME310 (7/72)

REPORT ON TRANSPORTATION

DO NOT WRITE IN THIS SPACE

A.B.C. District Board of Education

OFFICIAL NAME OF BOARD

00

REGION

PLEASE READ DIRECTIONS ON FORM T8 BEFORE COMPLETING THIS FORM

ELEMENTARY ☐ SECONDARY ☒

REPORT NUMBER 1 of 1

JULY 1, 1971 – JUNE 30, 1972

TRANSPORTATION CODE DETAILS

WHERE MORE THAN ONE ENTRY IS APPLICABLE IN ANY OF RECTANGLES 1, 2, 3 AND 4, A SEPARATE REPORT IS TO BE PREPARED

1. TRANSPORTATION ARRANGEMENT
   - **By Contract or Fare** ☐
   - **By Rented Vehicle** ☐
   - **By Board-Owned Vehicles** ☒

2. TYPE OF TRANSPORTATION
   - Regular Daily ☐
   - Summer School ☒
   - School to School ☐

3. TYPE OF PUPIL
   - RESIDENT
     - Elementary ☐ Secondary ☐
   - NON-RESIDENT (See T8 Note)
     - Elementary ☐ Secondary ☐

4. PERIOD
   - **For School Year September to June** ☐
   - **Other (Specify)** Summer School 30 days
   - Partial Period September to December ☐
   - Partial Period January to June ☐

ENTER NUMBER OF DAYS ON WHICH TRANSPORTATION IS TO BE PROVIDED

ANALYSIS OF PUPILS BY DISTANCE CATEGORY FOR WHOM TRANSPORTATION IS PROVIDED

	NAME OF SCHOOL TO WHICH PUPILS ARE TRANSPORTED (List School Once Only)	Number of pupils classified by the shortest distance by road from home to school or from school to school										
		Under 2 miles	2 miles but under 4	4 miles but under 6	6 miles but under 9	9 miles but under 12	12 miles but under 18	18 miles but under 25	25 miles but under 35	35 miles but under 45	45 miles or more	Total
1	Advanced Secondary		10			6						16
2												
3												
4												
5												
6	Etcetera											
7												
8												
9												
10												
11												
12												
13												
14	TOTALS	5	15	12	10	8	2					52

FOR USE OF DEPARTMENT ONLY

15	RATE PER DAY	20c	40c	50c	65c	75c	90c	$1.10	$1.35	$1.80	$2.25
16	PRODUCTS OF ITEMS 14 AND 15	1.00	6.00	6.00	6.50	6.00	1.80				

17 CEILING PER DAY .... $ 27.30

18 ADJUSTED CEILING PER DAY – Contract and rented — COUNTIES 100% ☐ — DISTRICTS 115% ☐

Board-owned — COUNTIES 90% ☐ — DISTRICTS 103.5% ☒ — $ 28.26

19 ADJUSTED CEILING PER PERIOD

– September – December 19___ $ ______

– January – June 19___ $ ______

– Summer School 19 72 $ 848.00

T10

SUMMARY OF TRANSPORTATION SERVICES

1. **Where Board A** owns its buses and provides Transportation Service For Board B, Board A **is deemed** to be an Operator.
2. **Use one** line for each Agreement.
3. **Use one** line to record the data, in the case of board-owned vehicles.
4. **The** number of days used to determine the cost per day is the number shown in **Rectangle** 4 on page 1.

NAME OF OPERATOR	ROUTE DETAILS				
	NO. OF ROUTES	NO. OF VEHICLES	DAILY MILEAGE	NO. OF PUPILS	COST PER DAY
COL. 1	COL. 2	COL. 3	COL. 4	COL. 5	COL. 6
Y Bus Company	1	1	62	30	$26.00
John Doe	1	1	50	22	24.00
TOTALS	2	2	112	52	$50.00

CERTIFICATE

I hereby certify, (1) that the Transportation Code Details are correct,

(2) that the Analysis by Distance Category shows accurately the number of pupils in each category for whom transportation is provided, and

(3) that the above Summary of Transportation Services presents fairly the data pertaining to the transportation of pupils to the schools shown on this Report for the period July 1, 1971 to June 30, 1972.

DATE

SIGNATURE OF CHIEF EXECUTIVE OFFICER

MINISTRY OF EDUCATION, ONTARIO

Page 1
of 1 Pages

REPORT OF THE SUPERINTENDENT OF THE ONTARIO SCHOOL FOR THE DEAF OR THE BLIND
ON
PUPIL ENROLMENT ELIGIBLE FOR HOME-SCHOOL TRANSPORTATION PROVIDED BY SCHOOL BOARDS
1972-73

The pupils included in the following list are enrolled in Ontario School for the Blind (Name of School) at Brantford, Ontario (Address of School) and their parents or guardian are resident in the county or territorial district of ABC. These pupils are eligible for the transportation service to and from The Ontario Schools for the Deaf or the Blind that is provided by the school board supported through municipal taxation by their parent or guardian.

NAME OF PUPIL	HOME ADDRESS	GRADE LEVEL (Elem. or Sec.)	SCHOOL BOARD SUPPORTED BY PARENT OR GUARDIAN*	FREQUENCY OF TRIPS HOME AUTHORIZED DURING SCHOOL YEAR
Joseph Smith	A Street V Town	Elementary	ABC District Board of Education	Weekly
John Jones	B Street Y Town	Elementary	ABC District Board of Education	Weekly
Mary Lands	C Street Z Town	Elementary	ABC District Board of Education	"
Jane Doe	D Street Z Town	Elementary	ABC District Board of Education	"
Tom Brown	E Street Z Town	Secondary	ABC District Board of Education	"
Robert Green	G Street Z Town	Secondary	ABC District Board of Education	"
Harry Black	K Street Z Town	Elementary	ABC District RCSS Board	"

*The school board supported in respect to a pupil of secondary school grade level is the Board of Education of the area.

One copy to be forwarded to each school board listed and to the Regional Business Administrator for the area.

Date

Superintendent

Form ME311 (7/72)

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD A.B.C. District Bd. of Ed.
REGION 00
Page 1 of 1 Pages

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT
IN RESPECT OF
HOME-SCHOOL TRANSPORTATION OF PUPILS ENROLLED IN THE ONTARIO SCHOOLS FOR THE DEAF AND THE BLIND
VIA PUBLIC TRANSPORTATION(1)
1972-73

Check One:
☒ Elementary
☐ Secondary

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6		Col. 7	
NAME OF PUPIL	TRANSPORTED TO AND FROM SCHOOL ADDRESS	TRANSPORTED TO AND FROM PUPIL'S HOME ADDRESS	MODE OF TRANSPORTATION(1)	STANDARD ACCOMMODATION FARE PER TRIP(2)	NO. OF TRIPS AUTHORIZED(2)		MAXIMUM ELIGIBLE FOR GRANT COL. 5 X COL. 6	
					Sept-Dec Period	Jan June Period	Sept-Dec Period	Jan June Period
Joseph Smith	Brantford	A Street, V Town	Public Bus	$4.00	32	50	$128.00	$200.00
John Jones	Brantford	B Street, Y Town	Public Bus	5.00	32	50	160.00	250.00
					TOTALS		288.00	450.00

(1) Taxi service is not included in this report; this is included in Form ME 313 pertaining to contract vehicles.
(2) Trip means one-way travel.

Date

Chief Executive Officer

Form ME 312 (7/72)

MINISTRY OF EDUCATION, ONTARIO

NAME OF BOARD ABC District Bd. of Ed
REGION 00

CALCULATION OF MAXIMUM EXPENDITURE ELIGIBLE FOR GRANT
IN RESPECT OF
HOME-SCHOOL TRANSPORTATION OF PUPILS ENROLLED IN THE ONTARIO SCHOOLS FOR THE DEAF AND THE BLIND
VIA CONTRACTED OR BOARD OWNED VEHICLES

1972-73

Col. 1	Col. 2	Col. 3	Col. 4	Col. 5	Col. 6		Col. 7	Col. 8	Col. 9	
Name of Operator (where Board is operator, show name of Board)	Seating Capacity of Vehicle	Loaded Miles Per Trip	Mileage Rate	Maximum Per Trip Approval (Col. 3 X Col. 4)	No. of Trips Contracted or Arranged Sept-Dec Period	Jan-June Period	% of the Vehicle Cost Borne by the Board	Name of Board(s) that Vehicle is Shared with	Maximum Expenditure Eligible for Grant Col. 5 x Col. 6 x Col. 7 Sept-Dec Period	Jan-June Period
	(1)	(2)	(3)				(4)			
Y Bus Lines	16	120	.50	$60.	32	50	25	Neighbor Bd. of Ed.	$480.	$750.

TOTALS	480	750
Apportioned[5] ELEM.	240	375
SEC.	240	375

(1) The seating capacity of school buses is determined on the basis of 13" of bench space per seat. The seating capacity of vans is the manufacturer's rating, cars are rated at 4, station wagons are rated at 7.

(2) Loaded miles per trip is determined as the distance from point of first pick-up to point of last drop-off.

(3) The mileage rate is 50 cents per loaded mile for a car, station wagon or van (up to 18 seats) and 80 cents per loaded mile for a bus of greater than 18 seating capacity.

(4) Where the vehicle used in transporting pupils to and from an Ontario School for the Deaf or the Blind is shared with another board or boards, enter the percentage of the contract cost borne by the board completing this report. Where the vehicle is used solely by the board completing this report, enter 100%.

(5) The maximum expenditure eligible for grant is apportioned between the elementary and secondary panels of a Board of Education in the ratio of pupils transported.

Date

Chief Executive Officer

Form ME313 (7/72)

MINISTRY OF EDUCATION, ONTARIO

Page 1
of 1 Pages

APPLICATION FOR REIMBURSEMENT FOR COST OF TRANSPORTATION OF NON-RESIDENT PUPILS

NAME OF BOARD A.B.C. District Board of Education

PANEL: (check one only)
☒ Elementary
☐ Secondary

TRANSPORTATION PERIOD: (check one only)
☒ September 1, 1972 to December 31 1972
☐ January 1, 1973 to June 30, 1973

1	2	3	4	5	6	7	8	9	10	11
P.V. LICENCE NO. OF BUS USED FOR TRANSPORTATION OF PUPILS INCLUDED IN THIS CLAIM	SEATING CAPACITY OF BUS (a)	PER DIEM COST OF BUS TO BOARD	BASIC PER DIEM RATE FOR BUS (b)	DAILY MILES FOR BUS (c)	MAXIMUM DAILY APPROVAL FOR BUS Col 4 + (Col 5 − 60 × 40¢) × 1.15	ACTUAL DAILY APPROVAL FOR BUS Lesser of Col 3 and Col 6	WEIGHTED NUMBER OF PUPILS PERTAINING TO THIS CLAIM TRANSPORTED ON BUS (d) (e)	TOTAL NUMBER OF WEIGHTED PUPILS TRANSPORTED ON BUS (d)	REIMBURSEMENT AMOUNT PER DAY Col 8 ÷ Col 9 × Col 7	REIMBURSEMENT AMOUNT FOR PERIOD Col 10 × No. of Days (f)
V 1234	54	37.00	32.50	75	39.40	37.00	30	57	2.79	$223.00
									TOTAL	$223.00

(see Notes and Instructions on reverse)

CERTIFICATE

This is to certify that the requirements of Sections 5 and 9b of Ontario Regulation 202 (R.R.O. 1970) as amended by O. Reg. 29/72 made under The Ministry of Education Act have been met.

______________ Date

______________ Board Official

have compared the vouchers supporting the expenditure for transportation with amounts thereof approved for grant purposes and I recommend payment.

______________ Date

______________ Regional Business Administrator

Form ME316 (7/72)

NOTES

(a) **The seating capacity of a school bus is to be determined by dividing the total bench space by 13" except that the seating capacity for vehicles other than normal buses will be for cars–4, for station wagons–7, for vans–manufacturer's rating less driver.**

(b) The basic per diem rate for school buses is as is established for determination of maximum expenditure eligible for grant in respect to resident pupils of a board and is set out in Form ME300 entitled "Instructions Re Pupil Transportation".

(c) Daily miles for the bus is determined as the sum of the distance travelled from the point of first pick-up to the point of last drop-off and the shortest distance from the point of last drop-off back to the point of first pick-up in respect to each regular daily trip.

(d) The number of pupils are weighted by multiplying those of grade 7 level or higher by 1.15.

(e) Attach lists in respect to each bus showing the name, place of residence and grade level of the pupils for whom reimbursement of transportation cost is claimed.

(f) Transportation expenditure is approved for 80 days for the September-December period and 120 days for the January-June period.

INSTRUCTIONS

(1) One copy of this Application, accompanied by vouchers supporting transportation expenditures, is to be mailed, as soon as possible following the close of the period concerned, to the Regional Business Administrator.

(2) Sections 5 and 9b of Regulation 202 (R.R.O. 1970) as amended by O. Reg. 29/72 made under The Ministry of Education Act are quoted as follows:

Section 5–"Where a pupil,

(a) resides in a territorial district;

(b) is not resident in a school division, a school section, or a separate school zone, a secondary school district, or a Crown establishment;

(c) attends either an elementary school or a secondary school; and

(d) is provided by an elementary school board with transportation to and from school,

the Minister shall reimburse the board for its expenditure for the transportation of the pupil in an amount not in excess of the amount that would be eligible for general legislative grants in respect of transportation of the pupil if the jurisdiction of the board was considered to include the place of residence of the pupil, and the board may charge to the parent or guardian of the pupil the excess of the actual cost of transportation over the amount of the reimbursement provided by this section."

Section 9b–"Where a pupil,

(a) resides in a territorial district;

(b) is not resident in a school division, a school section, a separate school zone, a secondary school district, or a Crown establishment;

(c) attends a secondary school; and

(d) is provided by a secondary school board with transportation to and from school,

the Minister shall reimburse the board for its expenditure for the transportation of the pupil in an amount not in excess of the amount that would be eligible for general legislative grants in respect of transportation of the pupil if the jurisdiction of the board was considered to include the place of residence of the pupil, and the board may charge to the parent or guardian of such pupil the excess of the actual cost of transportation over the amount of the reimbursement provided by this section."

(3) No part of this transportation cost is eligible for General Legislative Grant.

Form ME315 (7/72)

APPENDIX E

ACKNOWLEDGEMENTS

The Handbook on Managing School Transportation has been prepared by the School Business and Finance Branch in conjunction with Peter Barnard Associates. Mr. G.L. Duffin, former Assistant Deputy Minister of Education, supplied material for the section dealing with the history of school busing in Ontario.

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